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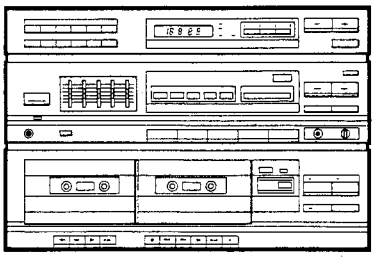
Service Manual



ORDER NO.
ARP1387

STEREO CASSETTE DECK RECEIVER

RX-1180
RX-1190
RX-1181
RX-1191
RX-1182
RX-1192

Original

MODEL RX-1180 COMES IN THREE VERSIONS DISTINGUISHED AS FOLLOWS:
MODEL RX-1190 COME IN ONE VERSION DISTINGUISHED AS FOLLOWS:

Type	Applicable model						Power requirement	Export destination
	RX-1180	RX-1190	RX-1181	RX-1191	RX-1182	RX-1192		
KU	○	–	–	–	○	○	AC120V only	U.S.A
KUC	–	○	○	○	–	–	AC120V only	U.S.A and Canada
SD	○	–	–	–	–	–	AC110V, 120V-127V, 220V, 240V (switchable)	Kingdom of SaudiArabia and general market
SD/G	○	–	–	–	–	–	AC110V, 120V-127V, 220V, 240V (switchable)	U.S.Military

- **This service manual is applicable to the RX-1180/KU, SD, SD/G, RX-1190/KUC, RX-1181/KUC, RX-1191/KUC, RX-1182/KU and RX-1192/KU.**
- **As to the RX-1180/SD, SD/G and RX-1190/KUC please refer to pages 64.**
- **As to the RX-1181/KUC and RX-1191/KUC please refer to the additional service manual (ARP1388).**
- **As to the RX-1182/KU and RX-1192/KU please refer to the additional service manual (ARP1408).**

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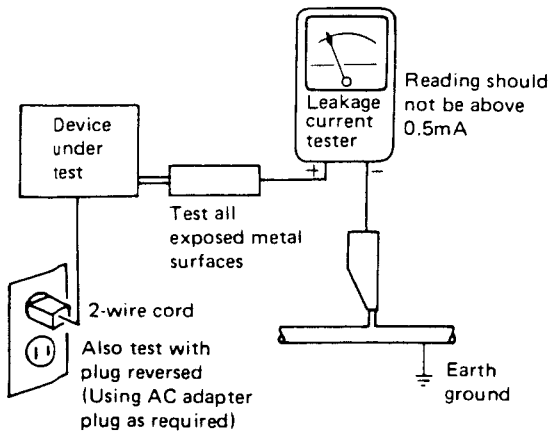
1. SAFETY INFORMATION

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Leakage current tester
Reading should not be above 0.5mA
Device under test
Test all exposed metal surfaces
2-wire cord
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. SPECIFICATIONS

Amplifier Section

[RX-1180]

Continuous Average Power Output is 110 watts* per channel, min., at 8 ohms from 20 Hertz to 20,000 Hertz with no more than 0.05% total harmonic distortion.

[RX-1190]

Continuous Average Power Output is 125 watts* per channel, min., at 8 ohms from 20 Hertz to 20,000 Hertz with no more than 0.05% total harmonic distortion.

[RX-1180/RX-1190]

Input (Sensitivity/Impedance)
- PHONO MM ..... 3.5 mV/47 kΩ
- CD,VIDEO/AUX ..... 210 mV/33 kΩ

Phono Overload Level (T.H.D. 0.05%, 1,000 Hz)
- PHONO MM ..... 88 mV

Frequency Response
- PHONO MM ..... 20 Hz to 20,000 Hz ±2 dB
- CD, VIDEO/AUX ..... 20 Hz to 70,000 Hz ± 3 dB

Hum and Noise (IHF, short circuited, A network)
- PHONO MM ..... 72 dB
- CD, VIDEO/AUX ..... 90 dB

Graphic Equalizer frequency band
..... 100 Hz, 330 Hz, 1 kHz, 3.3 kHz, 10 kHz, ±12 dB

** Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier.*

FM Tuner Section [RX-1180/RX-1190]

Frequency range ..... 87.5 MHz to 108 MHz
Usable Sensitivity ..... 14.2 dBf, IHF (1.4 μV/75 ohms)
50 dB Quieting Sensitivity ..... Mono: 19.2 dBf (2.5 μV/75 ohms)
Stereo: 41.2 dBf (31.4 μV/75 ohms)
Signal-to-Noise Ratio (IHF, 85 dBf Input) ..... Mono: 70 dB
Stereo: 67 dB
Stereo Separation ..... 43 dB (1 kHz)
Frequency Response ..... $^{+1}_{-1.5}$ dB (20 Hz to 15 kHz)
Antenna Input ..... 300 Ω balanced
75 Ω unbalanced

AM Tuner Section [RX-1180/RX-1190]

Frequency range ..... 530 kHz to 1,700 kHz
Sensitivity (IHF, Loop antenna) ..... 355 μV/m
Antenna ..... Loop Antenna

Tape Deck Section

Systems ..... 4 track, 2-channel stereo
Heads ..... Recording/playback head ×1
Playback head × 1
Erasing head × 1
Motor ..... DC servo 2 speed motor × 2
Wow and Flutter ..... No more than 0.13% (WRMS)
Fast Winding Time ..... Approximately 105 seconds (C-60 tape)

Frequency Response
- −20 dB recording:
  - Normal tape ..... 35 Hz to 14,000 Hz ±6 dB
  - CrO_2 ..... 35 Hz to 15,000 Hz ±6 dB

Signal-to-noise Ratio
- Dolby NR OFF ..... 50 dB

Noise Reduction Effect
- Dolby B type NR ON ..... More than 10 dB (at 5 kHz)

Miscellaneous [RX-1180/RX-1190]

Power Requirements ..... AC 120 Volts, 60 Hz
Power Consumption
- RX-1180 ..... 350 W, 450 VA
- RX-1190 ..... 410 W, 550 VA

Dimensions ..... 420 (W) × 280 (H) × 320 (D) mm
16-9/16 (W) × 11 (H) × 12-5/8 (D) in

Weight (without package)
- RX-1180
  - U.S. model ..... 10.6 kg (23 lb 6 oz)
  - Other destination model ..... 10.9 kg (24 lb 1 oz)
- RX-1190 ..... 10.9 kg (24 lb 1 oz)

Furnished Parts [RX-1180/RX-1190]

FM T-type Antenna 1
AM Loop Antenna 1
Operating Instructions 1
Remote control unit 1
Dry cell batteries [AAA (RO3)] 2

NOTE:
Specifications and the design subject to possible modifications without notice due to improvements.

3. CONNECTION DIAGRAM

• ANTENNA CONNECTIONS

RADIO RECEPTION IS NOT POSSIBLE UNLESS THE ANTENNA IS PROPERLY CONNECTED.

The strength of broadcast signal varies from one area to another (signal propagation is especially poor in metropolitan areas, where there are may tall buildings, and in mountainous areas). Proper antenna installation is vital to good reception.

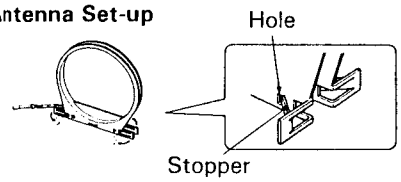
AM ANTENNA

The AM loop antenna supplied with the cassette deck receiver should be connected to the AM antenna terminals. The antenna should be placed at a distance from the cassette deck receiver, and should not be allowed to touch metallic objects. Avoid placing it near CD players, personal computers, television sets, and other devices generating radio frequencies.

Setting up the AM antenna

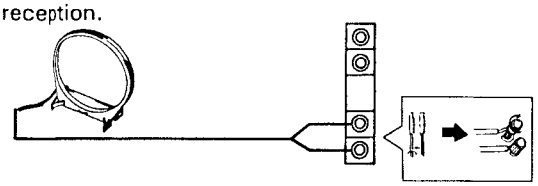
- Fold out the supports on the bottom of the antenna. Insert the stopper in the hole in the antenna to lock them in place.
- Place the antenna on a level surface and rotate it to locate the orientation that yields the best reception.

AM Loop Antenna Set-up



AM Loop Antenna Connection

The accessory AM loop antenna must be connected to ensure proper reception.



External AM antenna

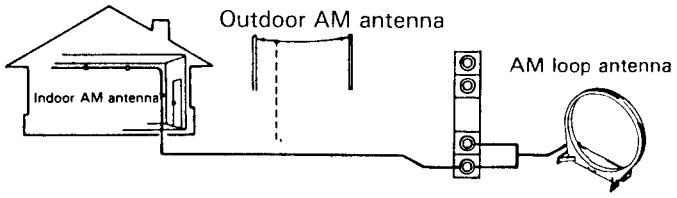
Indoor AM antenna

Provide a vinyl-coated wire (5 to 6 meters long). Secure one end to the AM terminal and the other end to a wall or other high location.

Outdoor AM antenna

If reception is still poor even when a lead antenna has been stretched out indoors, stretch out a vinyl-coated wire and secure it outdoors.

Connecting the external AM antenna

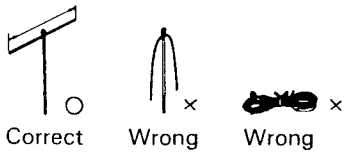


NOTE:
Do not detach the AM loop antenna when using the external AM antenna.

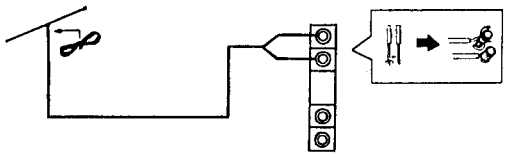
FM ANTENNA

FM T-type antenna attachment

Connect the accessory FM T-type antenna to the FM terminals. Stretch the antenna out to its full length, and affix it to a wall, etc.
Stretch out both ends.



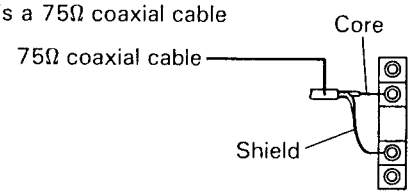
The accessory FM T-type antenna must be connect to ensure proper reception.



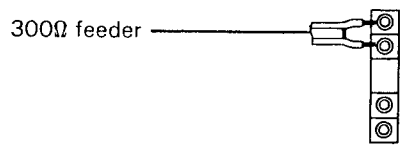
External FM antenna installation

Use an external antenna when the signals from the station are weak and cannot be picked up by the accessory FM T-type antenna, or when the sound heard is accompanied by large amounts of noise. There are two ways of connecting the external FM antenna to the ANTENNA terminals with 300Ω feeder wire, or with a 75Ω coaxial cable.
It is recommended that you use the 75Ω coaxial cable, so that the effects of extraneous noise are reduced to a minimum.

When the connecting cable is a 75Ω coaxial cable



When the connecting cable is a 300Ω feeder wire



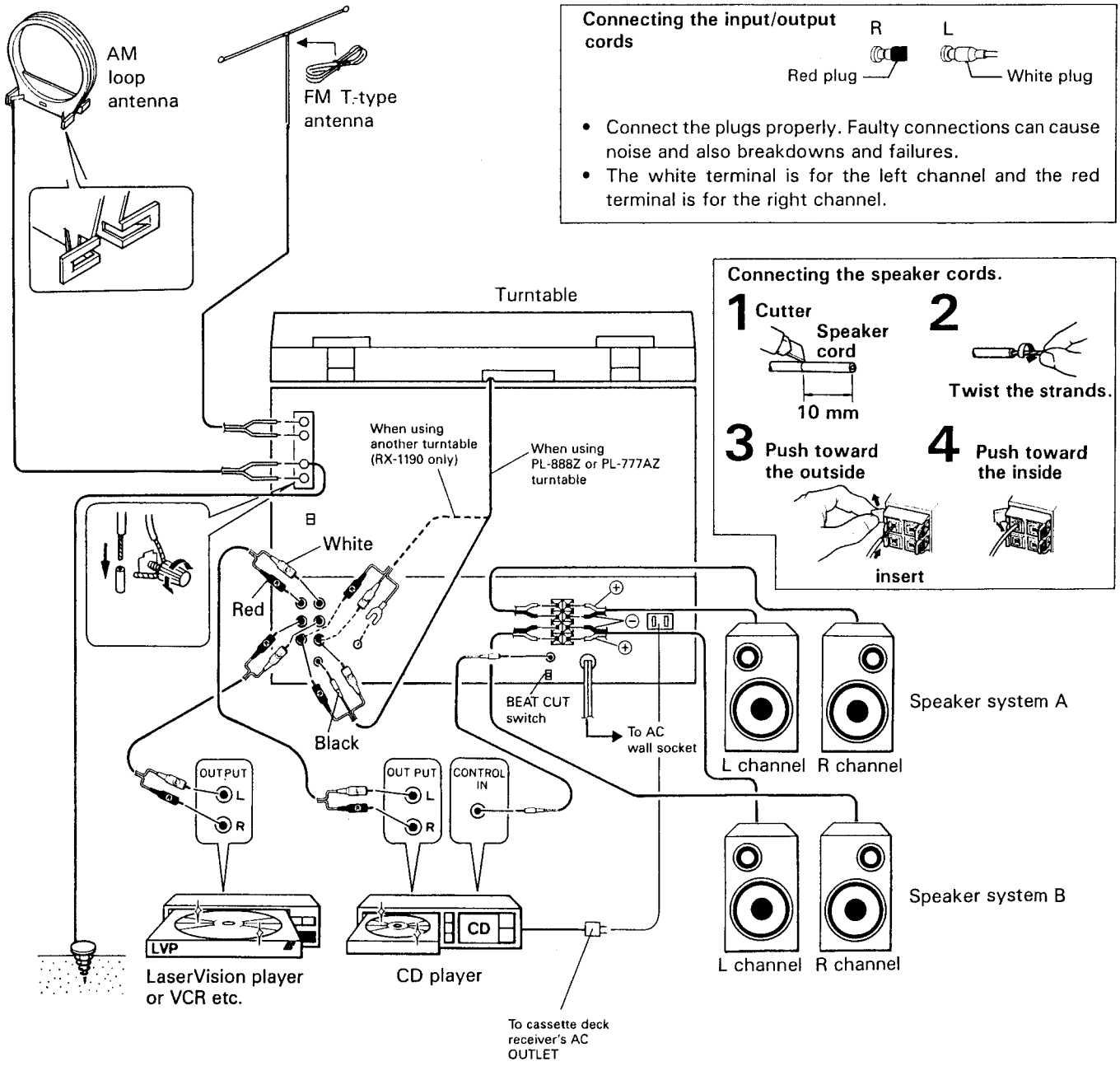
• CONNECTIONS

Proceed as follows with the set-up and connections

1 Connect the FM antenna and the AM antenna to the cassette deck receiver's ANTENNA terminals. (See page 4)
(Use an antenna ground as necessary. See page 6.)
2. Connect the turntable's cords to the cassette deck receiver's TURNTABLE jacks (and GND terminal). If any other stereo component is to be used, connect in the same way to the cassette deck receiver's input jacks.
3. Connect the speaker cords to the SPEAKERS terminals.
4. Finally, connect the power cord to the AC wall socket.

* RX-1180 is not equipped with GND terminal.

Illustration not applicable to model RX-1180



Antenna ground

Although grounding is not necessary for reception it is recommended for protection against damage from lightning if an outdoor FM antenna is used. Grounding is recommended as well to help reduce noise and hum.

NOTE:
Never make the ground connection to a gas pipe as sparks could cause the gas to ignite.

NOTE ABOUT SPEAKER CONNECTIONS

- Speaker systems used should have an impedance of between 8Ω and 16Ω.
- Be sure that connections are secure. Check to make sure that wires do not protrude from their terminals.
- Do not allow the speaker cords to become shorted. Damage may result to your equipment.
- Do not attempt to simultaneously connect two sets of speakers to a single side (A or B). When using two sets of speakers, connect one set to side A and one set to side B.

AC OUTLET SWITCHED 100W MAX

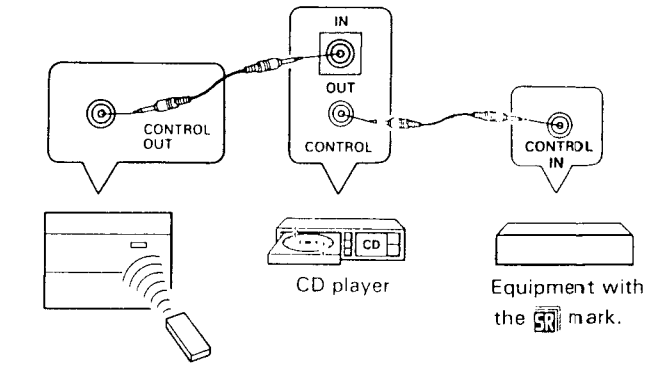
Power supplied through this outlet is turned on and off by this equipment's POWER switch. Total electrical power consumption of connected equipment should not exceed 100 W.

NOTE:
Do not connect appliances with high power consumption such as heaters, irons, or television sets to the AC OUTLET, in order to avoid overheating or fire risk.
This can cause this equipment to malfunction.

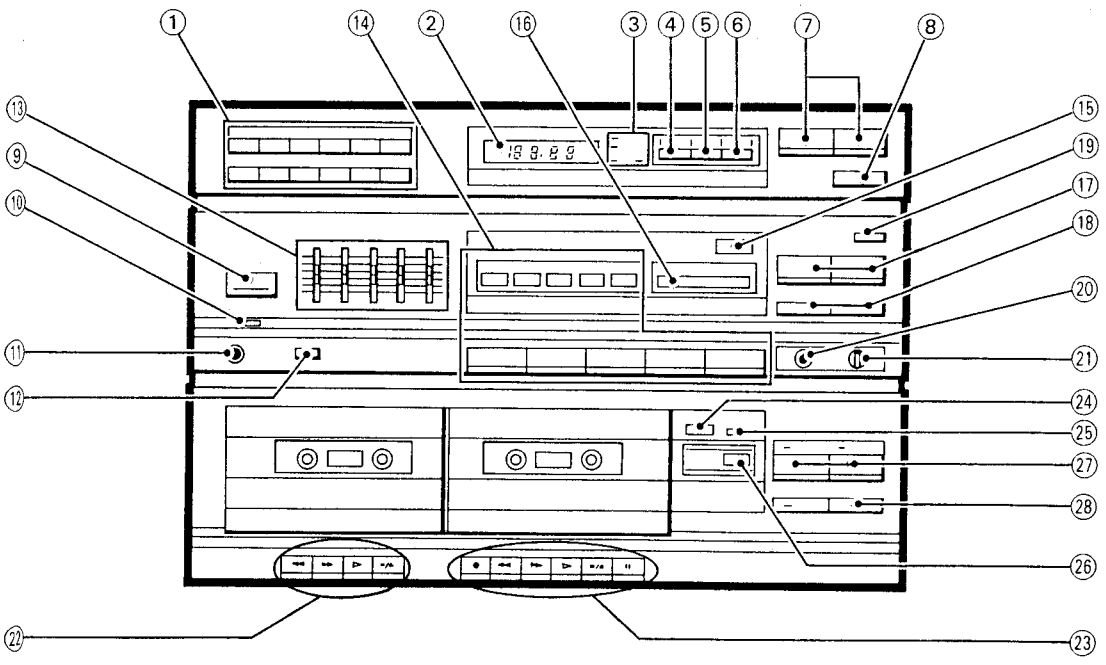
To control a unit other than this receiver using the remote control unit

① In the case of a PIONEER equipment marked SR which is provided with a remote sensor, operate the equipment by aiming the remote control unit at the remote sensor on the equipment.

② For equipment with the SR mark, but without a remote sensor, operation of the equipment by facing the remote control unit towards the remote sensor of the cassette deck receiver possible with connection from the CONTROL OUT jack to the CONTROL IN jack. Use a commercially available cable with mini-plugs for the connection.



4. PANEL FACILITIES



TUNER SECTION

①STATION CALL switches

These are used to recall preset broadcasting stations and to preset the station.

②FREQUENCY/STATION NUMBER DISPLAY
③INDICATORS

[TUNED]
This lights to indicate that a station has been optimally tuned in.
[STEREO]
This lights during FM stereo reception.
[FM MONO]
Lights when the FM MONO switch is pressed to select monaural FM reception.
[AUTO TUNING]
Lights when the auto tuning mode is selected during FM/AM reception.

④MEMORY switch

This switch is used to memorize stations. When the switch is pressed, the FREQUENCY indicator will flash. To memorize the frequency of any station, press the STATION CALL switch while the frequency indicator is flashing.

⑤FM MONO switch

Normally, the FM MONO indicator remains off. However, it may not be possible to tune in a desired FM station because it is too far away or because its signals are too weak. In cases like these, press the switch to set the reception to the monaural mode (FM MONO indicator lights) and tune in the station. The program of an FM stereo broadcast will be heard in mono. This switch will not function for AM reception.

⑥AUTO/MANUAL switch

Use to select either the AUTO mode or MANUAL mode for FM/AM reception.

⑦TUNING switch (−, +)

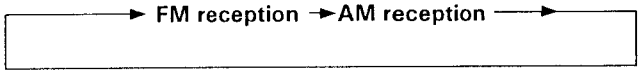
The function of this switch differs according to whether AUTO tuning or MANUAL tuning is selected.

[AUTO tuning mode]
When this mode is selected, AUTO TUNING indicator light (press AUTO/MANUAL switch if the indication is not lighting). When the "+" switch is pressed, the frequencies are scanned in ascending order; when the "−" switch is pressed, they are scanned in descending order. Scanning stops as soon as a station has automatically been tuned in.
Auto scanning is terminated when either TUNING (−, +), AUTO/MANUAL, BAND, or MEMORY switch is pressed.

[MANUAL tuning mode]
When this mode is selected, AUTO TUNING indicator turns off (press AUTO/MANUAL switch if the indicator is lighting). When the "+" switch is kept pressed, the frequency increases and when the "−" switch is kept pressed, it decreases.

⑧BAND selector switch (FM/AM)

This is used to select the band of the desired station. The bands change alternately each time the switch is pressed.



AMPLIFIER SECTION

⑨POWER (STANDBY/ON) switch

When this switch is set to the ON position, the STAND-BY/SLEEP indicator goes out and power is supplied to the main circuits of the cassette deck receiver.
Disconnect the power cord from the power outlet when you do not plan to use the cassette deck receiver for a long period of time.

The cassette deck receiver has a backup function, so it will return to the original status when the power cord is unplugged and soon again plugged into the power outlet.

⑩STANDBY/SLEEP indicator

This indicator lights in stand-by status or when the SLEEP function is operating when the power cord is connected to a power outlet.
When the SLEEP key on the remote control unit is pressed, the sleep function activated for approximately 60 minutes, then enters the standby mode. (The SLEEP indicator flashes faster as the end of the remaining time nears.)

⑪PHONES jack

This is a "standard plug-type jack" for headphones.

NOTE:
Sound is not heard from the speakers when headphones are in use.

⑫SPEAKERS switch (■ A, ▬ A+B)

This is used to select the speaker through which you wish to listen.

■ A : When the speakers connected to A terminals are in use.
▬ A+B : When the speakers connected to A and B terminals are in use.
(There is no sound if A + B is selected when speakers are connected only to the A terminals.)

Be sure to use A terminals when you use a pair of speakers only. No sound will be heard through the speakers when only a pair of speakers are connected to B terminals.

⑬GRAPHIC EQUALIZER controls

The equalizer is divided into five frequency ranges (100 Hz, 330 Hz, 1 kHz, 3.3 kHz, 10 kHz) to tailor music to the individual taste of the listener.

NOTE:
Effective only for audio playback. Does not work for recording and copying operations.

⑭FUNCTION switches/indicators

The indicators light for the specified functions.

[VIDEO/AUX]
Press when listening to a stereo component connected to the VIDEO/AUX jacks.
[TAPE]
Press when listening to a cassette tape.
[TUNER]
Press when listening to a radio broadcast.
[PHONO]
Press when playing records on a turntable connected to the PHONO jacks.
[CD]
Press when listening to a CD player connected to the CD jacks.

⑮REMOTE SENSOR window

⑯VOLUME/BALANCE indicator

The indicator shows volume level. When either of BALANCE switches is pressed, the indicator shows BALANCE between left and right channels.
The indicator flashes during muting.

⑰VOLUME switch

This switch is pressed to adjust the volume.
+: Increases volume.
−: Decreases volume.

⑱BALANCE switches

Use to adjust the balance between the sounds from the left and right speakers.
L: Press to decrease the sound on the right side.
R: Press to decrease the sound on the left side.
CENTER: The display returns to CENTER when both L and R are pressed simultaneously.

⑲MUTING switch

Pressing this switch alternately interrupts and returns the sound. VOLUME/BALANCE indicator flashes during muting.

⑳MIC jack (excluding U.S. and Canadian models)

Used to connect microphones equipped with standard plugs.

㉑MIXING LEVEL (excluding U.S. and Canadian models)

Adjusts the volume of the microphone.
Increasing the microphone volume reduces the source volume.

CASSETTE TAPE DECK SECTION

- The cassette deck receiver is provided with an automatic tape selector function.
  Deck I ... NORMAL/CrO_2, METAL
  Deck II... NORMAL/CrO_2

㉒Deck I switches

□/⏏ (STOP/EJECT) .. Stops tape travel. Ejects cassette if pressed when tape is stopped.
▷ (PLAY) ..... Playback.
►► (FF) ..... Fast forward
◄◄ (REW) ..... Rewind

㉓Deck II switches

▯▯ (PAUSE) ..... Temporarily stops tape travel. Cancels pause mode when pressed again.
□/⏏ (STOP/EJECT) .... Stops tape travel. Ejects cassette if pressed when tape is stopped.
▷ (PLAY) ..... Playback
►► (FF) ..... Fast forward
◄◄ (REW) ..... Rewind
● (REC) ..... Set to the recording mode.

㉔DECK II TAPE COUNTER

3-digital display measures tape travel on deck II.

㉕DECK II TAPE COUNTER RESET button

㉖Recording indicator (REC)

Lights during recording. Flashes during tape copy standby mode or remote control pause.

㉗COPY MODE switches/indicators

These switches and indicators are used to select the copy mode.
SYNCHRO ..... Normal speed copying (Permits you to listen to playback normally.)
HIGH SPEED ..... High speed copying (double-speed, half-time copying)

㉘DOLBY NR switch/indicator

Press to activate noise reduction system. Use to play back tapes recorded using Dolby B NR noise reduction.

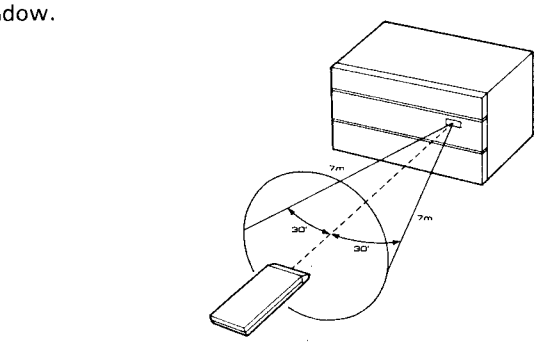
- Tapes recorded using Dolby B NR noise reduction should always be played back with the noise reduction system on. Sound quality will be adversely affected if they are played back with the system off, or if tapes recorded using a different noise reduction system are played back with the Dolby B NR system on.
- It is recommended that tapes recorded using Dolby B NR be so marked on the label. This will help to prevent incorrect setting of the noise reduction switch during playback.

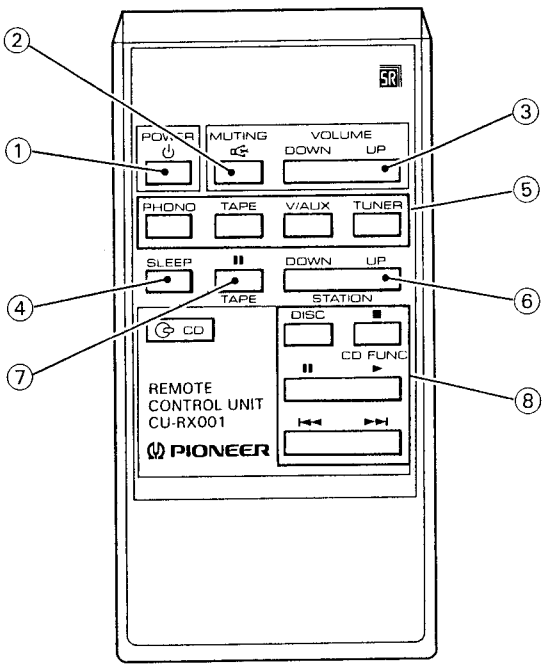
Noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

• REMOTE CONTROL UNIT FACILITIES

Range of remote control

When the remote control unit is pointed at the REMOTE SENSOR window on the deck receiver and any of its keys is pressed, the cassette deck receiver and other components can be operated by remote control.
Distance: Within a range of about 7 meters from the REMOTE SENSOR window
Angle: Within approx. 30 degrees from the center of the REMOTE SENSOR window
Remote control will not be possible if there is an obstacle between the remote control unit and the REMOTE SENSOR window.





① POWER key
② MUTING key
③ VOLUME (DOWN, UP) key
④ SLEEP key

Pressing this key sets the sleep timer to approximately 60 minutes. The STANDBY/SLEEP indicator flashes while the sleep timer is operating. The SLEEP indicator flashes faster as the end of the remaining time nears.

⑤ FUNCTION selector keys
⑥ STATION key

UP: Used to tune in the station numbers in ascending order.
DOWN: Used to tune in the station numbers in descending order.

⑦ TAPE PAUSE key

Use to pause during tape playback or recording.
Press again to release the pause.
Refer to "Remote control pause" for details.

⑧ CD keys

▷ (Play) ..... Function on the amplifier section is set to CD mode.
Begins CD playback.
▮▮ (Pause) ..... Press to temporarily pause playback.
■ (Stop) ..... Press to stop playback.
DISC ..... Disc numbers can be selected when used together with a Pioneer magazine type CD player.
▶▶| (Track search) ... When pressed once, play advances to the beginning of the next track; when pressed continuously, advances to further tracks.
|◀◀ (Track search) ... When pressed once, play returns to the beginning of the currently playing track; when pressed continuously, returns to earlier tracks.

Remote Control Pause

(When remote control pause is possible)

	Deck I PLAY	Deck II PLAY	Relay Play	Source REC.	SYNCHRO REC.
Deck I	YES	–	YES*	–**	YES***
Deck II	–	YES	YES*	YES	YES***

*When pause is applied while the deck is playing back.
**Use remote control pause only for Deck II during tape dubbing. The Deck II pause will not be released even if Deck I is played back in this status.
***Both Deck I and Deck II will pause.
Pressing the remote control PAUSE key again releases the pause.

NOTES:
- *Remote control pause is also released when the deck operating status is changed by using any of the main unit operating switches except for the Deck II PAUSE switch (except for item ** above). When pause is applied from the remote control, it is recommended that the pause also be released from the remote control.*
- *If a pause is applied while one deck is playing back, the pause will not be released even if the FF, REW, STOP/EJECT switches of the other deck are operated.*
(Pressing the PLAY switch releases the pause and enters the relay playback mode.)

• GRAPHIC EQUALIZER CONTROLS

The advantage of the GRAPHIC EQUALIZER over conventional tone controls is that with the five controls of the GRAPHIC EQUALIZER it is possible to control five different narrow. With conventional tone controls a setting for a bass or treble boost or cut will also affect the lower or upper mid frequencies. The frequency bands controlled by the five slide controls have been chosen to yield the maximum possible control action within the audio spectrum.

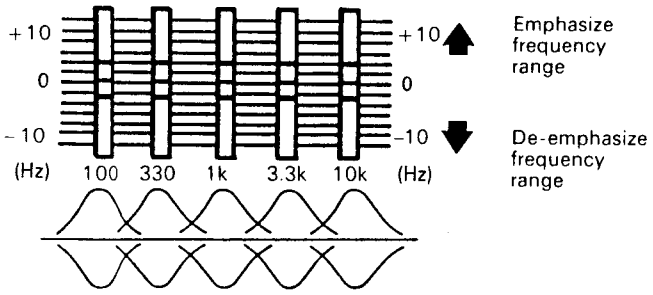
100 Hz: The 100 Hz control is very useful for enhancing low bass notes as in organ music.

330 Hz: The 330 Hz control will allow you to vary the upper bass frequencies.

1 kHz: The 1 kHz control is the presence control and can be used very effectively to emphasize, or de-emphasize vocalists.

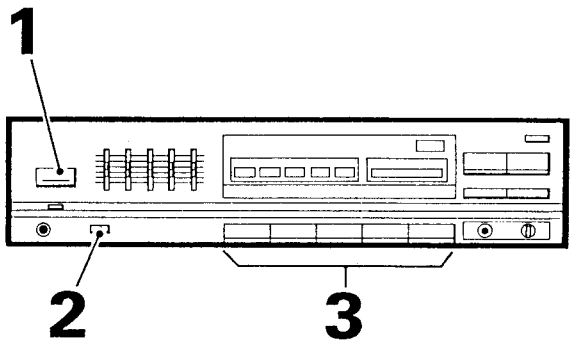
3.3 kHz: The 3.3 kHz control will add brilliance and clarity to brass instruments and violins.

10 kHz: The 10 kHz control can be used to make up for missing high frequencies absorbed by the environment and to add a natural crispness to music.



• PRELIMINARY OPERATIONS

• PERFORM THE FOLLOWING PROCEDURES BEFORE STARTING ANY OF THE OPERATIONS.



1. Press the POWER switch to the ON.

• The STANDBY/SLEEP indicator will go out.

2. Select the SPEAKERS button.

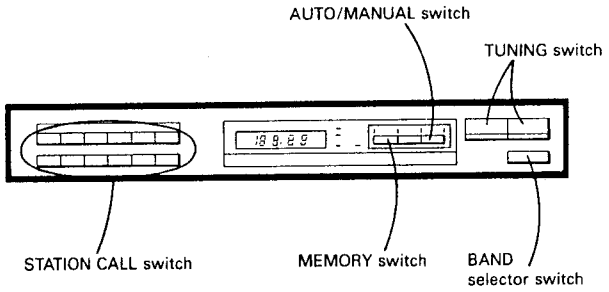
3. Select the FUNCTION switches before operating any of the equipment.

- To listen to equipment connected to the VIDEO/AUX jacks: [VIDEO/AUX]
- To listen to a cassette tape: [TAPE]
- To listen to an FM or AM broadcast: [TUNER]
- To listen to a record: [PHONO]
- To listen to a compact disc: [CD]

When a function key is pressed, the corresponding indicator lights.

• BASIC OPERATIONS

LISTENING TO THE BROADCASTS



Auto tuning

The electronic tuning circuit inside the cassette deck receiver will automatically search for the station.

1. Perform the preliminary operations on page 10.
2. Select the desired broadcasting band using the BAND selector switch.
3. Press the AUTO/MANUAL switch to establish the auto tuning mode (the AUTO TUNING indicator will light).
4. Press the "+" or "−" TUNING switch for higher or lower frequency.
   The frequency will change rapidly during scanning. The auto tuning will stop automatically when the station is located and the TUNED indicator will light up.

NOTE:
When the auto tuning is in use, reception may not be possible over long distances or when signals are weak. At these times manual tuning is recommended.

5. Adjust the volume with the VOLUME control and the tone with the GRAPHIC EQUALIZER controls.

Manual tuning

1. Perform the preliminary operations on page 10.
2. Select your desired broadcasting band using the BAND selector switch.
3. Press the AUTO/MANUAL switch to establish the manual tuning mode (the AUTO TUNING indicator goes off).
4. Press the TUNING switch to locate the frequency of your desired station.
   For step-by-step searching, press the TUNING switch once and release it immediately. For continuous rapid scanning keep the TUNING switch pressed. The TUNED indicator will light up when the station is tuned in best.

NOTE:
The TUNED indicator will not function for broadcasts received over long distances or when signals are weak.

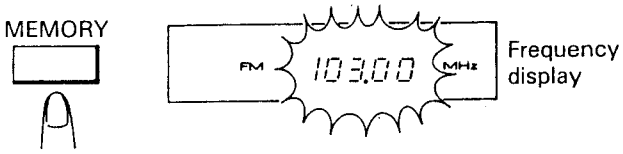
5. Adjust the volume with the VOLUME control and the tone with the GRAPHIC EQUALIZER controls.

PRESETTING STATIONS

Presetting

From 1 to 24 FM/AM stations can be preset at random. Press the STATION CALL switch once for 1 — 12 (Mode 1) and twice for 13 — 24 (Mode 2).

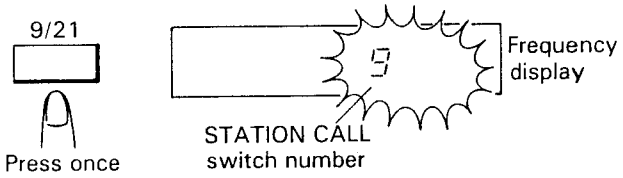
1. **Tune in desired station.**
   - See the auto tuning section for information on reception using auto tuning.
   - See the manual tuning section for information on reception using manual tuning.
2. **Press the MEMORY switch.**
   - The display will flash (about 3 seconds).



3. **Press the STATION CALL switch.**
   - While the display is flashing, press the switch corresponding to the station which you wish to preset or re-preset.

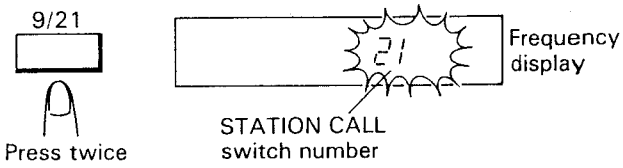
When presetting a station to Mode 1 (e.g. presetting a station to No. 9):

By pressing the STATION CALL switch once, the station will be preset to Mode 1.



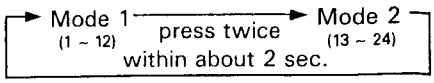
When presetting a station Mode 2 (e.g. presetting a station to No. 21):

Mode 2 stations are preset by pressing the STATION CALL switch twice within about 2 seconds.



- After you press the STATION CALL switch, the display will flash for about 2 seconds, then the station will be memorized. If you press another switch (except the FM Mono and auto-manual switch) while the display is flashing, the station will not be memorized.

Pressing the STATION CALL switch twice within about 2 seconds switches alternately between Mode 1 and Mode 2.



RECEPTION USING PRESET TUNING

1. Perform the preliminary operations on page 10.
2. Press the STATION CALL switch into which the desired station has been memorized.
   - To listen to a Mode 1 broadcast, press the switch once, and to listen to a Mode 2 broadcast, press it twice.

   In this way, simple and accurate reception of any desired station is possible.

NOTE:
- *The contents of the STATION CALL switches will be preserved for several days, even if the power cord is unplugged.*
- *If a preset station has been erased, re-preset it.*

Last Station Memory

- When the POWER switch is pressed to turn power on, the last station received before the power was previously turned STANDBY mode will be received again.
- When power is ON, if the BAND selector switch is pressed, the last station received before the BAND selector switch was previously pressed will be received again.

TAPE PLAYBACK

Single Playback (a function of both Decks I and II)

1. Perform the preliminary operations on page 10.
2. Press the STOP/EJECT switch and load a pre-recorded cassette tape then close the cassette door.
3. Select the DOLBY NR switch.
4. Press the PLAY (▷) switch.
   - Press the PLAY (▷) switch of the deck into which the cassette tape is loaded.
5. Adjust the volume with the VOLUME control and the tone with the GRAPHIC EQUALIZER controls.
6. To stop playback, press the STOP/EJECT switch.

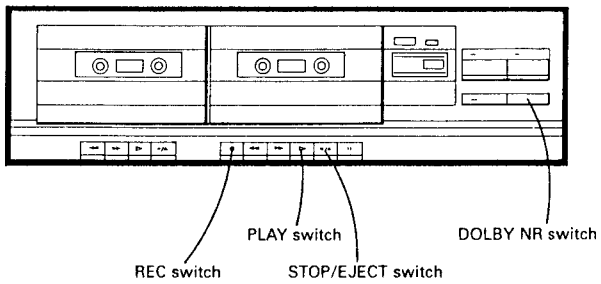
Relay playback (Continuous playback Deck I → Deck II, or Deck II → Deck I)

- A deck will enter the standby mode if its PLAY switch is pressed while the other deck is in the play mode. When the deck presently playing is stopped, the deck in the standby mode will automatically enter the play mode for relay play.
- While the second tape is playing, a new tape can be replaced in the first deck in order to perform continuous playback of different tapes. This is a convenient feature for party background music, etc.

1. Perform the preliminary operations on page 10.
2. Load pre-recorded cassette tapes into both Deck I and DECK II. (Press the STOP/EJECT switch and load the cassettes.) Close the cassette doors.
3. Select the DOLBY NR switch.
4. Press the PLAY (▷) switch for the deck you wish to begin playing first, then press the PLAY (▷) switch for the other deck.
   - When the tape which is playing back reaches the end and automatically stops, the other deck automatically starts playback.
5. Adjust the volume with the VOLUME control and the tone with the GRAPHIC EQUALIZER controls.
6. To stop playback, press the STOP/EJECT switches.

NOTES:
- *Pressing Pause from the remote control during relay playback, stops the playback from one deck and starts playback from the other deck.*
- *Starting playback from one deck after pressing Pause from the remote control while one deck is playing back, cancels the pause and starts playback from the previous deck in the relay playback mode.*

TAPE RECORDING (A Function of Deck II Only)



1. Perform the preliminary operations on page 10.
   - Select the recording source with the FUNCTION switch.
2. Press the STOP/EJECT switch and load the cassette tape to be used for recording into Deck II. Close the cassette door.
3. Select the DOLBY NR switch.
4. Starts playback of the source being recorded.
   - When recording the sound from Deck I on Deck II (tape dubbing), start playback of Deck I after loading the cassette tape.
5. Hold down the REC (●) switch first and then press the PLAY (▷) switch.
   - The REC indicator will light.
   - Tape recording is unaffected by the VOLUME and GRAPHIC EQUALIZER setting.

NOTE:
- *Beat may occur and be included in recordings when recording AM broadcasts. In such cases, set the BEAT CUT switch on the rear panel to the side where beat is less.*
- *Use remote control pause only for Deck II during tape dubbing. The Deck II pause will not be released even if Deck I is played back in this status.*

6. To stop recording, press the STOP/EJECT switch.

Erasing the tape (function of Deck II only)

When recording on a previously recorded tape, the previously recorded sounds will be erased and new recording entered on the tape. To erase a previously recorded tape without recording anew, perform the following operations.

1. Load the cassette tape into Deck II.
2. Set Deck I to the stop mode.
3. Use the FUNCTION switch to set to TAPE.
4. Hold down the REC (●) switch first and then press the PLAY (▷) switch to start erasing.
   - Press the STOP/EJECT switch to stop erasing at any time.

AUTO-STOP MECHANISM (The Function of both Decks I and II)

When the tape is fully wound onto right reel during recording or playback, the auto-stop mechanism is activated without the STOP/EJECT switch having to be pressed, and the tape will automatically stop.

• TAPE COPYING

Tape copying is accomplished by playing back the original on Deck I and recording on Deck II. (Note that the reverse is not possible.)
If a tape recorded using Dolby NR, is copied, the copy as well will have the same noise-reduction characteristics. Copies of tapes originally recorded without noise reduction will have no noise reduction effects.

- Tape copying with added graphic equalizer effects is not possible.

NORMAL SPEED COPYING

1. Perform the preliminary operations on page 10.
2. Press the STOP/EJECT switch; then load the original cassette tape into Deck I and the cassette tape to be used for recording into Deck II. Close the cassette doors.
3. Use the FUNCTION switch to set to TAPE.)
   - Tape copying is possible regardless of the FUNCTION switch setting. However, the sound from the speakers will be that of the program source selected.
4. Press the SYNCHRO switch of the COPY MODE switches.
   - The SYNCHRO indicator will light.
5. Hold down the REC (●) switch and then press the PLAY (▷) switch of Deck II.
   - The REC indicator will flash.
   - The tape will remain stopped.

NOTE:
Make sure that the SYNCHRO indicator is lit.
If not lit, the tape cannot be copied so press the STOP/EJECT switch, return to item 4 and repeat the operation.

6. Press the PLAY (▷) switch of Deck I.
   - Deck I will start playing back and Deck II will start recording.
   - The SYNCHRO indicator will flash (it will continue to flash when PAUSE is used with the remote control) and the REC indicator will light.
   - Tape copying is unaffected by the volume and graphic equalizer settings.
   - When setting the FUNCTION Switch to TAPE and listening to playback from Deck I, set the volume and graphic equalizer controls.
7. To stop while making a copy, press the STOP/EJECT switches on both decks.

HIGH SPEED COPYING

1. Perform the preliminary operations on page 10.
2. Press the STOP/EJECT switch; then load the original cassette tape into Deck I and the cassette tape to be used for recording into Deck II. Close the casette doors.
3. Press the SYNCHRO switch of the COPY MODE switches.
   - The SYNCHRO indicator will light.
   - Tape copying is possible regardless of the FUNCTION switch setting; however, the sound from the speakers will be that of the selected program source.
4. Press the HIGH SPEED switch of the COPY MODE switches.
   - The HIGH SPEED indicator will light.
5. Hold down the REC (●) switch and then press the PLAY (▷) switch of Deck II.
   - The REC indicator will flash.
   - The tape will remain stopped.

NOTE:
Make sure that both the SYNCHRO and HIGH SPEED indicators are lit. High speed copying is not possible unless both are lit so press the STOP/EJECT switch, return to item 3 and repeat the operation.

6. Press the PLAY (▷) switch of Deck I.
   - The REC indicator will light.
   - The SYNCHRO and HIGH SPEED indicators will flash (it will continue to flash when PAUSE is used with the remote control).
7. To stop while making a copy, press the STOP/EJECT switches on both decks.

NOTE:
- *When using in the same room as a television set, position for enough away from the set to avoid interference, or turn off power to the television set.*
- *Beat may occur and be included in recordings when copying while receiving AM broadcasts. In such cases, set the BEAT CUT switch on the rear panel to the side where beat is less. There is no need to operate the BEAT CUT switch except for AM broadcasts.*

When Deck I is stopped while copying, restart from step 6.
When Deck II is stopped, restart from the beginning.

NOTE:
Pressing Pause from the remote control, operating the Deck I switches (except PLAY switch) cancels the Deck II pause mode and enters the SYNCHRO REC STANDBY mode. Playing Deck I in this status restarts SYNCHRO REC.

• RECORDING AND PLAYBACK USING THE AUDIO TIMER

UNATTENDED RECORDING (Deck II only)

1. Set the POWER switch to the standby position and connect the power cord to the outlet on the audio timer.
2. Set the POWER switch to ON.
3. Load a tape for recording in the Deck II.
4. Select the DOLBY NR switch.
5. Press the TUNER FUNCTION switch and tune in the station to be recorded.
6. Turn down the volume control to minimum position.
7. Set the audio timer so that the power comes on at the desired time. (Power to the components should be off at this point.)
8. Hold down the REC (●) switch and then press the PLAY (▷) switch of Deck II.
9. Power will be turned on automatically at the preset time, and recording will start.

WAKE-UP PLAYBACK (Deck I and II)

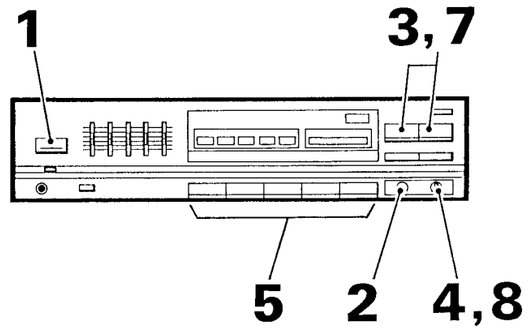
1. Set the POWER switch to the stand-by position and connect the power cord to the outlet on the audio timer.
2. Set the POWER switch to ON.
3. Select the DOLBY NR switch.
4. Load the tape which is to be played back.
5. Adjust the volume control to produce the level of volume required when timer playback starts.
6. Set the time on the audio timer so that the power comes on at the desired time. (Power to the cassette deck receiver should be off at this point.)
7. Press the PLAY (▷) switch.
   At the preset time, the power is switched on and the playback starts automatically.

   Depress both PLAY (▷) switches (Deck I and Deck II). At the preset time, the POWER is switched on and the relay playback starts automatically.
   Operations will vary according to the audio timer used. For details, see the operating instructions supplied with the audio timer.

• MIC MIXING (excluding U.S. and Canadian models)

MIXING KNOW-HOW

Mixing involves combining the signals from two input sources (a microphone and a tape, for example)



SINGING ALONG WITH A PROGRAM SOURCE

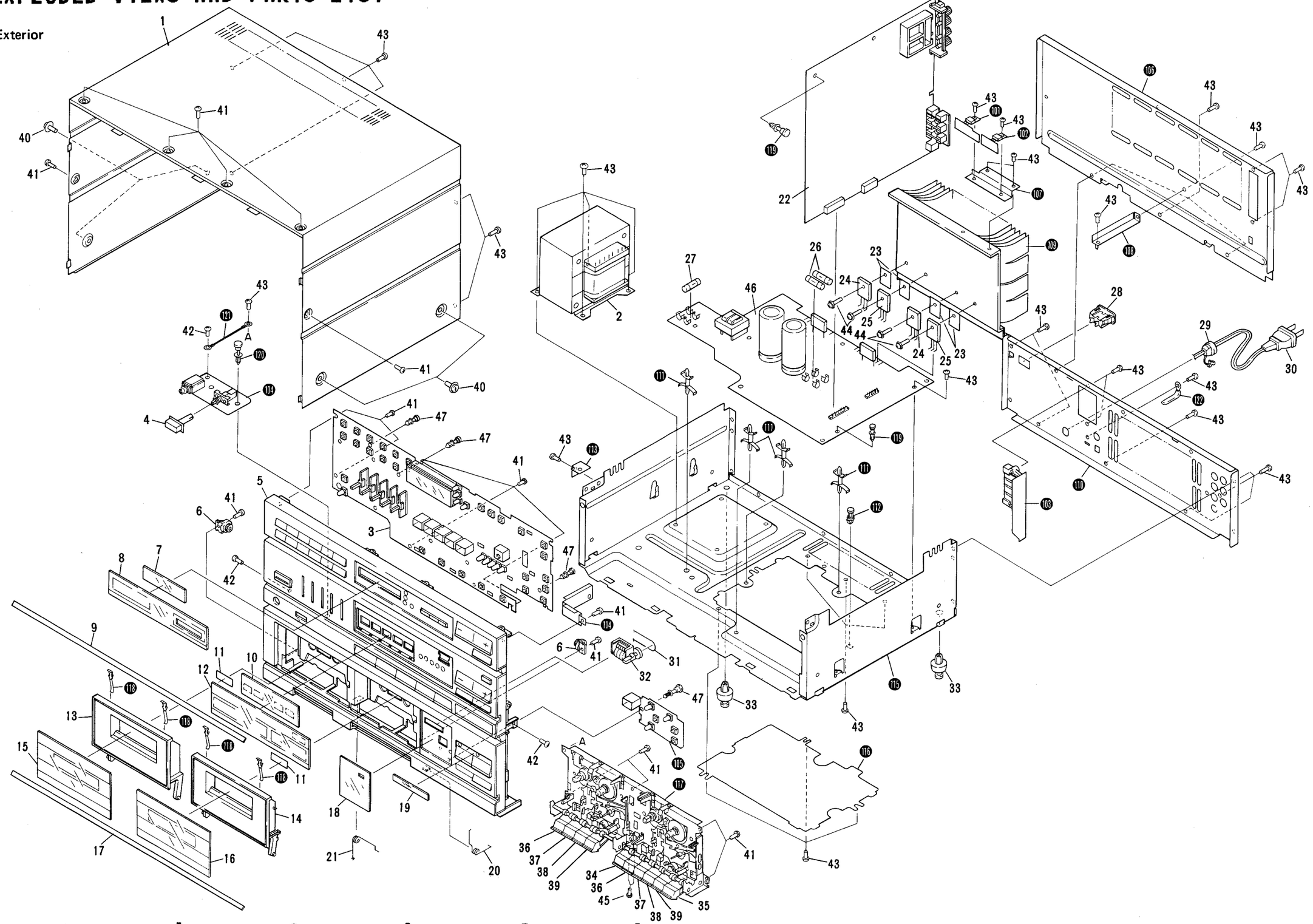
Operate after setting the MIXING LEVEL control to minimum.

1. Perform the preliminary operations on page 10.
2. Plug a microphone into the MIC jack.
3. Adjust the volume to a suitable level.
4. Set the MIXING LEVEL control to the center position.
   - If howling occurs (a high-pitched sound from the speakers), take the following steps.
     (1) Move the microphone away from the speakers.
     (2) Lower the volume.
5. Select the desired program source using the FUNCTION switches.
6. Start playback of the program source.
7. Adjust the overall volume.
8. Using the MIXING LEVEL control, adjust the sound balance between the microphone and the program source.
9. Sing along with the program using the microphone.

NOTE:
- *Recording of mixed sound is not possible.*
- *When not using the MIXING function, be sure to set the MIXING LEVEL control to SOURCE and remove the microphone plug from the MIC jack.*

5. EXPLODED VIEWS AND PARTS LIST

Exterior



NOTES:

- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

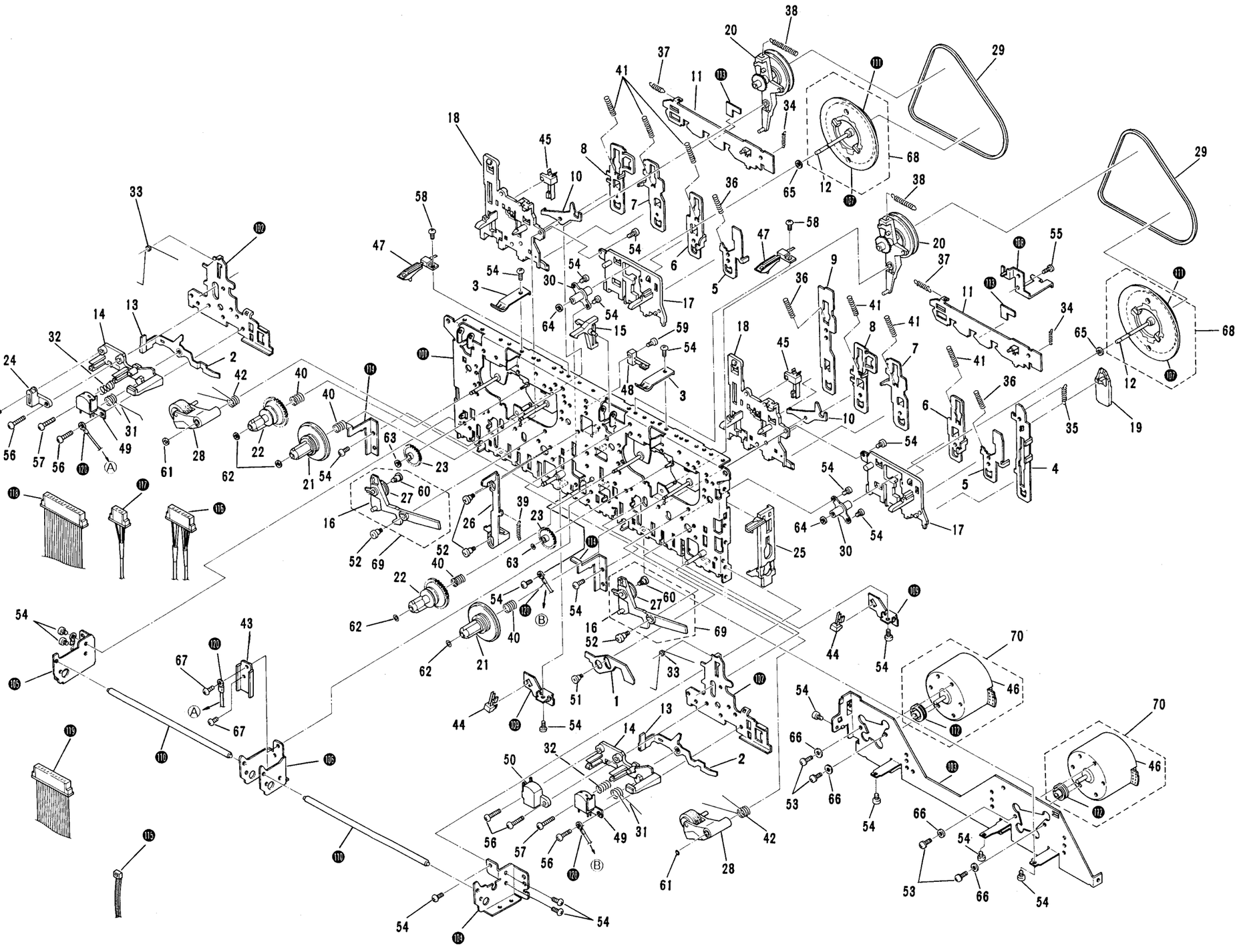
Parts List of Exterior

Mark	No.	Part no.	Description
	1	ANE1065	Bonnet case
⚠ ★	2	ATS1072	Power transformer (T1)
	3	AWZ1371	CONTROL assembly
	4	AAD1071	Knob (POWER)
	5	AMB1232	Front panel assembly
	6	AXA1004	Damper assembly
	7	AAK1227	FL filter
	8	AAK1217	Tuner panel
	9	AAK1224	Amp sash
	10	AAK1221	Function sheet
	11	AAX1054	Fluorescent sheet
	12	AAK1218	Amp panel
	13	AAN1036	Door L
	14	AAN1035	Door R
	15	AAK1222	Door panel L
	16	AAK1223	Door panel R
	17	AAK1225	Deck sash
	18	AAK1219	Deck display panel
	19	AAK1220	Copy panel
	20	ABH1026	Door spring L
	21	ABH1025	Door spring R
	22	AWM1054	Complex assembly A
	23	AEP-313	Mica sheet
⚠★★	24	2SA1302	Transistor (Q3,Q4)
⚠★★	25	2SC3281	Transistor (Q1,Q2)
⚠★★	26	AEK-122	Fuse (2A,125V, FU2,FU3)
⚠★★	27	AEK-309	Fuse (6.3A,125V, FU1)
⚠	28	AKP1015	1P AC socket (AC OUTLET)
⚠	29	AEP-113	AC strain relief
⚠	30	ADG-077	AC power cord
★★	31	AEB-310	Counter belt
	32	AAW1001	Tape counter
	33	AEC-784	Foot assembly
	34	AAE1052	Knob (REC)
	35	AAE1053	Knob (PAUSE)
	36	AAE0154	Knob (REW)
	37	AAE1055	Knob (FF)
	38	AAE1056	Knob (PLAY)
	39	AAE1057	Knob (STOP/EJECT)
	40	FBT40P080FZK	Screw (4×8)
	41	BPZ30P080FZK	Screw (3×8)
	42	VBZ30P080FMC	Screw (3×8)
	43	BBZ30P080FZK	Screw (3×8)
	44	ABA-258	Screw (3×19)
	45	ABZ20P080FMC	Screw (2×8)
	46	AWZ1373	MAIN assembly
	47	AMR1006	Plastic rivet
	101		REG.B assembly
	102		REG.A assembly
	103		SP TERM assembly
	104		SP SW assembly
	105		TAPE assembly
	106		Rear panel
	107		Sub-heat sink
	108		Heat sink holder
	109		Heat sink
	110		Rear cover
	111		PCB holder
	112		PCB support
	113		PCB support A
	114		PCB support B
	115		Chassis
	116		Bottom plate
	117		Tape transport unit
	118		Keep plate
	119		Pin-grommet
	120		・・・・・
	121		Earth lead
	122		Binder

Parts List of Tape Transport Unit

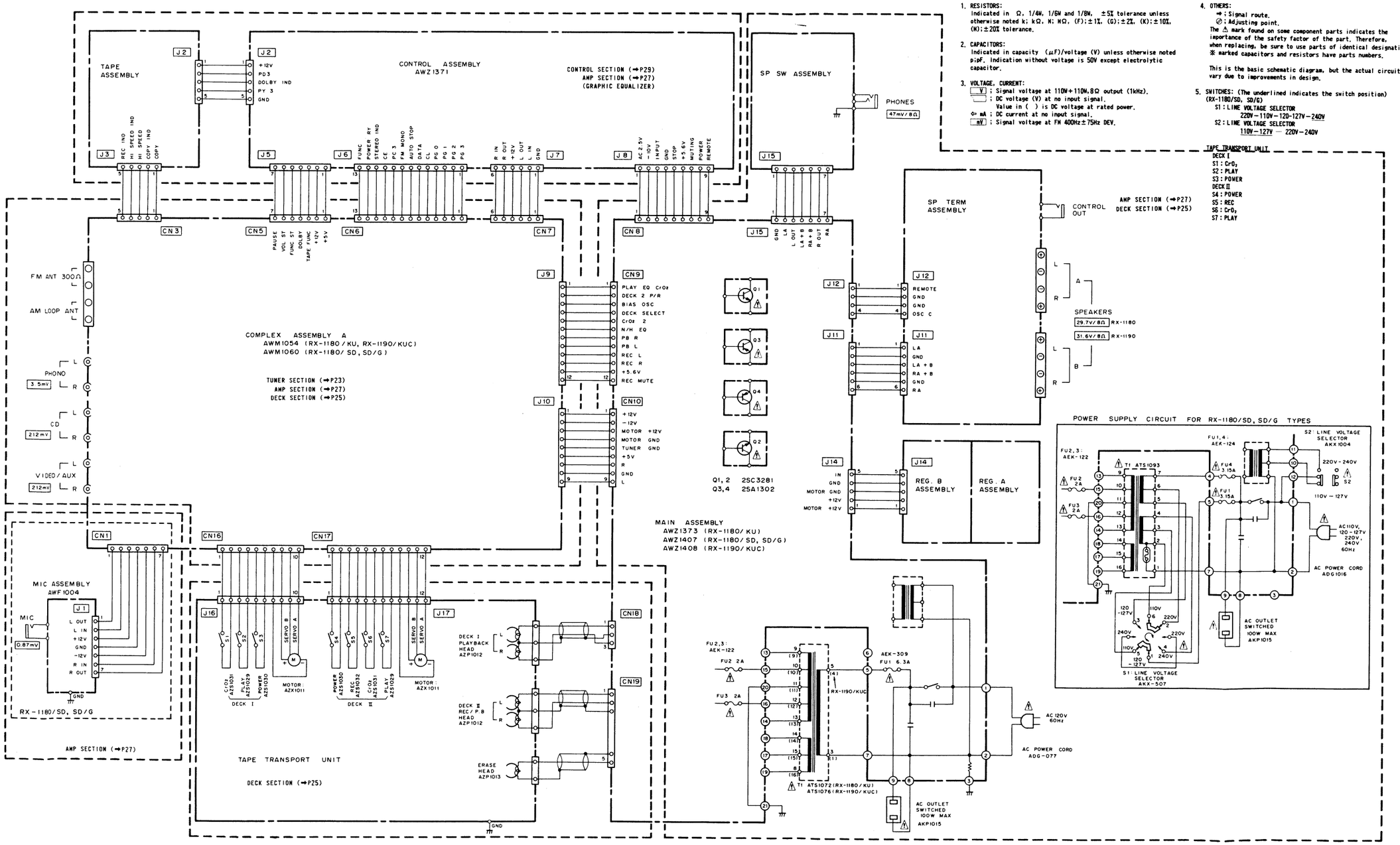
Mark	No.	Part no.	Description
	1	AZN1273	Pause arm
	2	AZN1274	AS arm
	3	AZN1241	Pack spring
	4	AZN1275	Pause lever
	5	AZN1276	Stop lever
	6	AZN1277	Play lever
	7	AZN1278	FF lever
	8	AZN1279	Rew lever
	9	AZN1280	Rec lever
	10	AZN1281	Rew arm (S)
	11	AZN1282	Lock cam (A) assembly
	12	AZN1242	Capstan shaft
★★	13	AZN1243	Sensor cap
	14	AZN1244	Head base
	15	AZN1245	Rec sensor
	16	AZN1246	Idler arm
	17	AZN1247	Lever base (A)
	18	AZN1248	Lever base (B)
	19	AZN1249	Pause cam
	20	AZN1250	Clutch arm assembly (R)
	21	AZN1251	Reel assembly
	22	AZN1252	S reel
	23	AZN1253	FF gear
	24	AZN1254	Tape guide
	25	AZN1255	Eject lever (F)
	26	AZN1256	Eject lever (W)
★★	27	AZN1257	Idler
	28	AZN1258	P roller arm assembly
★★	29	AZN1259	Belt
	30	AZN1260	Housing assembly
	31	AZN1261	Head chassis spring
	32	AZN1262	Head spring
	33	AZN1263	Idler arm spring
	34	AZN1264	Auto arm spring
	35	AZN1265	Pause lever spring
	36	AZN1266	Lever spring (A)
	37	AZN1267	Cam spring
	38	AZN1268	Clutch arm spring
	39	AZN1269	Eject spring
	40	AZN1270	Back tension spring
	41	AZN1271	Lever spring (E)
	42	AZN1272	P roller arm spring
	43	ANG1113	Mecha bracket
★★	44	AZS1029	Leaf switch (Play)
★★	45	AZS1030	Leaf switch (Power)
★★	46	AZX1011	Motor
★★	47	AZS1031	Leaf switch (CrO_2)
★★	48	AZS1032	Leaf switch (REC)
★★	49	AZP1012	REC/P.B head
★	50	AZP1013	Erase head
	51	AZB1061	Screw (A)
	52	AZB1062	Screw (B)
	53	AZB1063	Sems screw
	54	AZB1064	Tap tite screw
	55	AZB1065	Tap tite screw
	56	AZB1066	Binding screw
	57	AZB1067	Washer head screw
	58	AZB1070	Tap tite screw
	59	AZB1071	Tap tite screw
	60	AZB1072	Bush
	61	AZB1073	Poly slide washer
	62	AZB1074	Poly slide washer
	63	AZB1075	Poly slide washer
	64	AZB1076	Poly slide washer
	65	AZB1077	Poly slide washer
	66	AZB1078	Plain washer
	67	AZB1108	Tap tite screw
	68	AZN1284	Flywheel assembly
	69	AZN1359	Idler arm assembly
★★	70	AZX1012	Motor assembly
	101		Chassis (W) assembly
	102		Head chassis
	103		Motor bracket (FW)
	104		Button bracket (RF)
	105		Button bracket (LW)
	106		Button bracket (C)
	107		Flywheel weight
	108		Sub bracket
	109		SW bracket (F)
	110		Button shaft (W)
	111		Flywheel
	112		Motor pulley
	113		Insulator seat
	114		SW guard
	115		Nylon band
	116		5P head wire assembly
	117		3P head wire assembly
	118		12P wire assembly
	119		10P wire assembly
	120		Earth wire

Tape Transport Unit

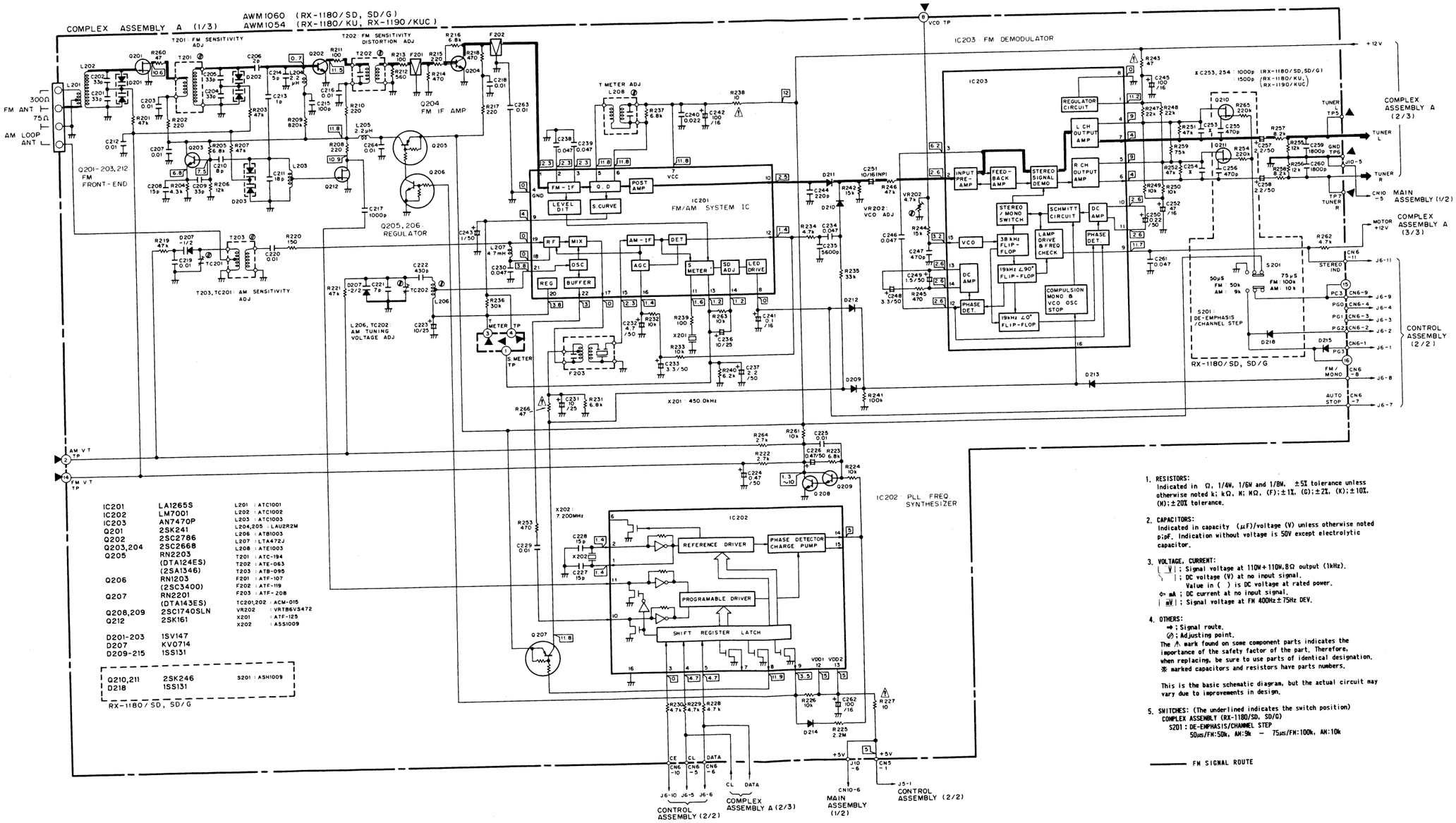


6. SCHEMATIC DIAGRAMS

6.1 OVERALL WIRING DIAGRAM



6.2 TUNER SECTION



1. RESISTORS:
   Indicated in Ω, 1/4W, 1/6W and 1/8W, ±5% tolerance unless otherwise noted k; kΩ, M; MΩ, (F):±1%, (G):±2%, (K):±10%, (M):±20% tolerance.

2. CAPACITORS:
   Indicated in capacity (μF)/voltage (V) unless otherwise noted p:pF. Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE, CURRENT:
   ⌊V⌋ ; Signal voltage at 110W+110W,8Ω output (1kHz).
   \| ; DC voltage (V) at no input signal.
   Value in ( ) is DC voltage at rated power.
   ⇦ mA ; DC current at no input signal.
   ⌊mV⌋ ; Signal voltage at FM 400Hz±75Hz DEV.

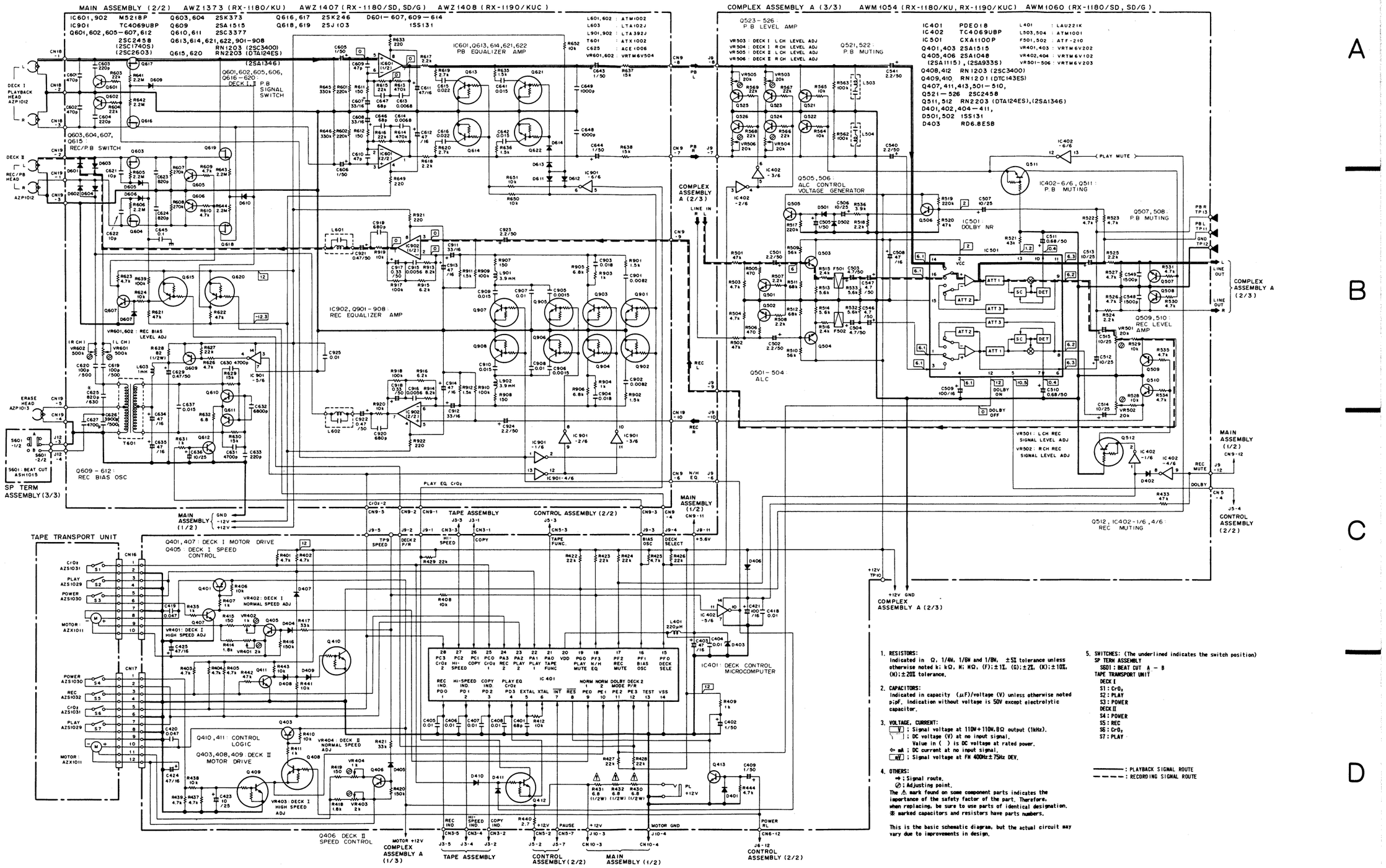
4. OTHERS:
   ⇒ ; Signal route.
   ⊘ ; Adjusting point.
   The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
   ※ marked capacitors and resistors have parts numbers.

   This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

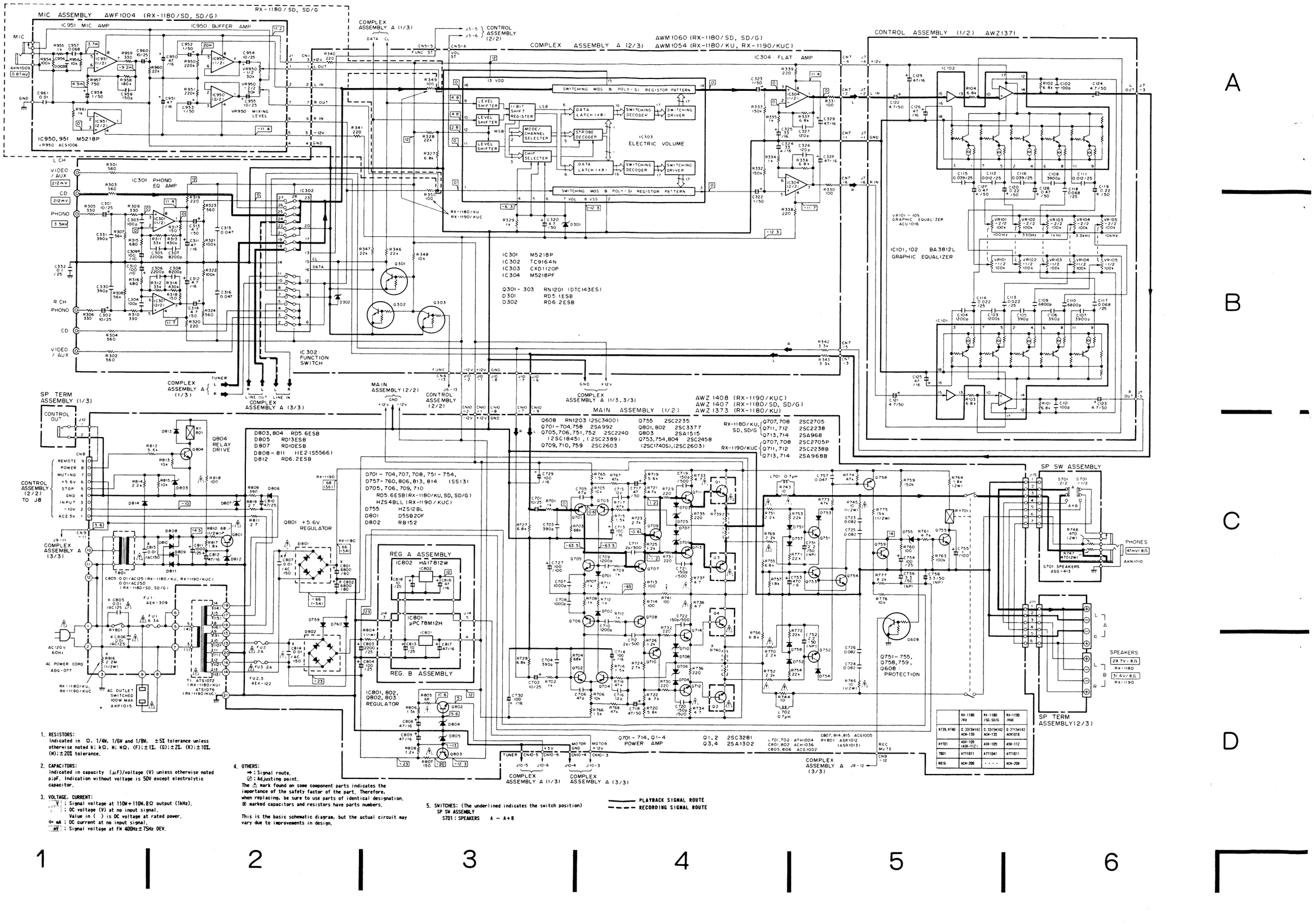
5. SWITCHES: (The underlined indicates the switch position)
   COMPLEX ASSEMBLY (RX-1180/SD, SD/G)
   S201: DE-EMPHASIS/CHANNEL STEP
   50μs/FM:50k, AM:9k — 75μs/FM:100k, AM:10k

FM SIGNAL ROUTE

6.3 DECK SECTION


MAIN ASSEMBLY (2/2) AWZ1373 (RX-1180/KU) AWZ1407 (RX-1180/SD, SD/G) AWZ1408 (RX-1190/KUC)
COMPLEX ASSEMBLY A (3/3) AWM1054 (RX-1180/KU, RX-1190/KUC) AWM1060 (RX-1180/SD, SD/G)
IC601, 902 M5218P
IC901 TC4069UBP
Q601, 602, 605-607, 612 2SC2458 (2SC1740S) (2SC2603)
Q603, 604 2SK373
Q609 2SA1515
Q610, 611 2SC3377
Q613, 614, 621, 622, 901-908 RN1203 (2SC3400)
Q615, 620 RN2203 (DTA124ES) (2SA1346)
Q616, 617 2SK246
Q618, 619 2SJ103
D601-607, 609-614 1SS131
L601, 602 : ATM1002
L603 : LTA102J
L901, 902 : LTA392J
T601 : ATX1002
C625 : ACE1006
VR601, 602 : VRTM6V504
IC601, Q613, 614, 621, 622 PB EQUALIZER AMP
Q601, 602, 605, 606, Q616-620: DECK I P.B SIGNAL SWITCH
DECK I PLAYBACK HEAD AZP1012
DECK II REC/PB HEAD AZP1012
Q603, 604, 607, Q615: REC/P.B SWITCH
IC902, Q901-908 REC EQUALIZER AMP
VR601, 602 : REC BIAS LEVEL ADJ
ERASE HEAD AZP1013
S601: BEAT CUT ASH1015
SP TERM ASSEMBLY (3/3)
Q609-612: REC BIAS OSC
MAIN ASSEMBLY (1/2) GND -12V +12V
PLAY EQ CrO2
TAPE ASSEMBLY
CONTROL ASSEMBLY (2/2)
MAIN ASSEMBLY (1/2)
TAPE TRANSPORT UNIT
CrO2 AZS1031
PLAY AZS1029
POWER AZS1030
MOTOR: AZX1011
REC AZS1032
Q401, 407: DECK I MOTOR DRIVE
Q405: DECK I SPEED CONTROL
VR402: DECK I NORMAL SPEED ADJ
VR401: DECK I HIGH SPEED ADJ
Q410, 411: CONTROL LOGIC
Q403, 408, 409: DECK II MOTOR DRIVE
VR404: DECK II NORMAL SPEED ADJ
VR403: DECK I HIGH SPEED ADJ
Q406: DECK II SPEED CONTROL
IC401: DECK CONTROL MICROCOMPUTER
REC IND. PD0 1
HI-SPEED IND. PD1 2
COPY IND. PD2 3
PLAY EQ CrO2 PD3 4
EXTAL 5
XTAL 6
INT 7
RES 8
PE0 9
PE1 10
PE2 11
PE3 12
TEST 13
VSS 14
PF0 DECK SELE 15
PF1 BIAS OSC 16
PF2 REC MUTE 17
PF3 N/H EQ 18
PG0 PLAY MUTE 19
VDD 20
PA0 TAPE FUNC 21
PA1 PLAY 1 22
PA2 PLAY 2 23
PA3 REC 2 24
PC0 CrO2 1 25
PC1 COPY 26
PC2 HI-SPEED 27
PC3 CrO2 2 28
NORM 1 NORM 2 DOLBY MODE DECK 2 P/R
Q523-526 P.B LEVEL AMP
Q521, 522 P.B MUTING
Q505, 506: ALC CONTROL VOLTAGE GENERATOR
Q501-504 ALC
IC401 : PDE018
IC402 TC4069UBP
IC501 CXA1100P
Q401, 403 2SA1515
Q405, 406 2SA1048 (2SA1115), (2SA933S)
Q408, 412 RN1203 (2SC3400)
Q409, 410 RN1201 (DTC143ES)
Q407, 411, 413, 501-510, Q521-526 2SC2458
Q511, 512 RN2203 (DTA124ES), (2SA1346)
D401, 402, 404-411, D501, 502 1SS131
D403 RD6.8ESB
L401 : LAU221K
L503, 504 : ATM1001
F501, 502 : ATF-210
VR401, 403 : VRTM6V202
VR402, 404 : VRTM6V102
VR501-506 : VRTM6V203
IC402-6/6, Q511: P.B MUTING
IC501: DOLBY NR
Q507, 508: P.B MUTING
Q509, 510: REC LEVEL AMP
VR501: LCH REC SIGNAL LEVEL ADJ
VR502: RCH REC SIGNAL LEVEL ADJ
Q512, IC402-1/6, 4/6: REC MUTING
COMPLEX ASSEMBLY A (2/3)
MAIN ASSEMBLY (1/2)
CONTROL ASSEMBLY (2/2)
TAPE ASSEMBLY
COMPLEX ASSEMBLY A (1/3)
1. RESISTORS:
Indicated in Ω, 1/4W, 1/6W and 1/8W, ±5% tolerance unless otherwise noted k; kΩ, M; MΩ, (F):±1%, (G):±2%, (K):±10%, (W):±20% tolerance.
2. CAPACITORS:
Indicated in capacity (μF)/voltage (V) unless otherwise noted p;pF. Indication without voltage is 50V except electrolytic capacitor.
3. VOLTAGE, CURRENT:
[V] ; Signal voltage at 110V+110V, 8Ω output (1kHz).
[ ] ; DC voltage (V) at no input signal. Value in ( ) is DC voltage at rated power.
⇦ mA ; DC current at no input signal.
[mV] ; Signal voltage at FM 400Hz±75Hz DEV.
4. OTHERS:
⇒ ; Signal route.
⊘ ; Adjusting point.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
※ marked capacitors and resistors have parts numbers.
This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.
5. SWITCHES: (The underlined indicates the switch position)
SP TERM ASSEMBLY
S601: BEAT CUT A - B
TAPE TRANSPORT UNIT
DECK I
S1: CrO2
S2: PLAY
S3: POWER
DECK II
S4: POWER
S5: REC
S6: CrO2
S7: PLAY
: PLAYBACK SIGNAL ROUTE
: RECORDING SIGNAL ROUTE

6.4 AMPLIFIER SECTION



1. RESISTORS:
Indicated in Ω, 1/4W, 1/6W and 1/8W, ±5% tolerance unless otherwise noted k: kΩ, M: MΩ, (F):±1%, (G):±2%, (K):±10%, (M):±20% tolerance.

2. CAPACITORS:
Indicated in capacity (μF)/voltage (V) unless otherwise noted pF. Indication without voltage is 50V except electrolytic capacitor.

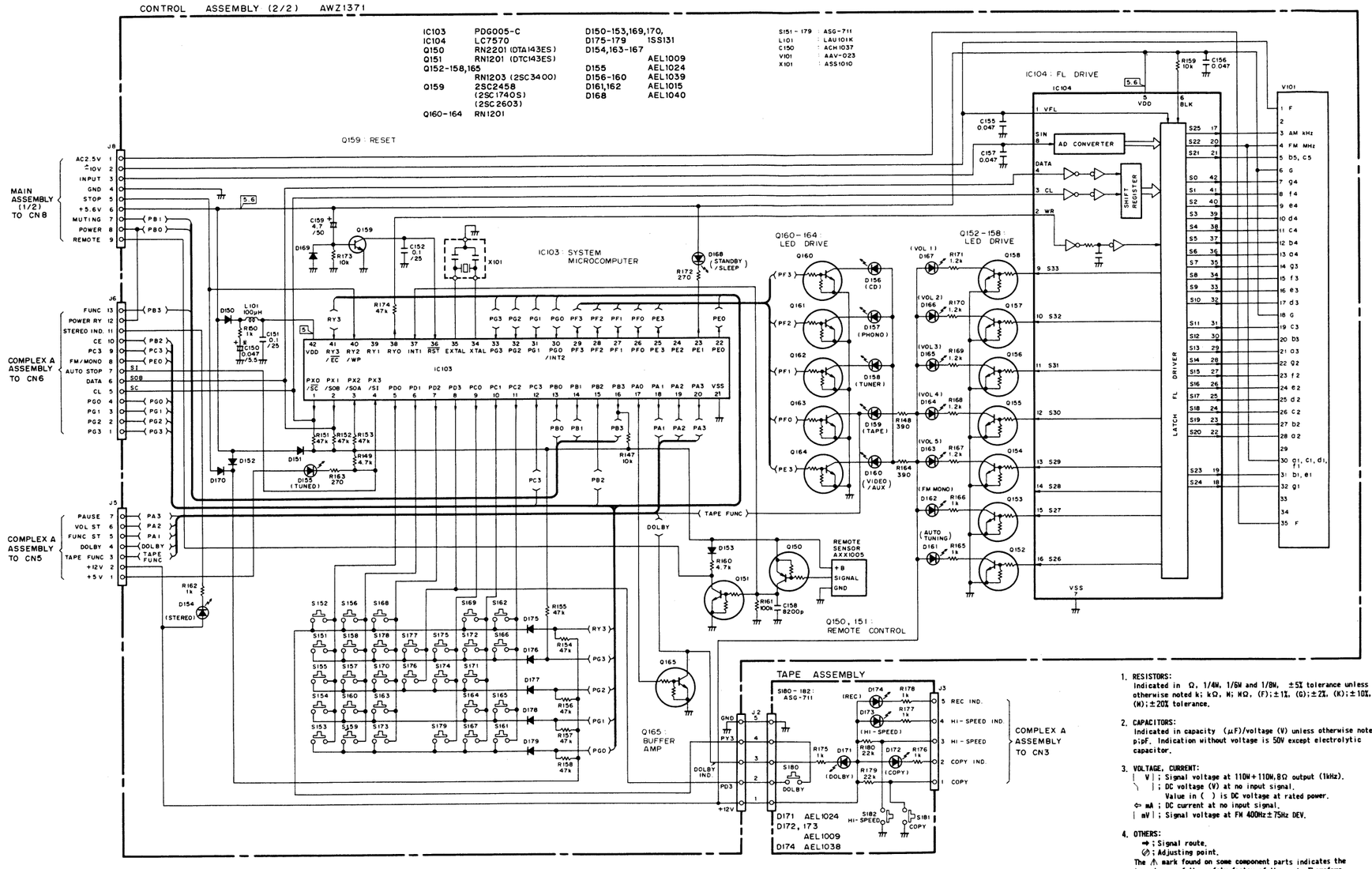
3. VOLTAGE, CURRENT:
V : Signal voltage at 110W+110W, 8Ω output (1kHz).
L : DC voltage (V) at no input signal.
Value in ( ) is DC voltage at rated power.
<0> mA : DC current at no input signal.
mV : Signal voltage at FM 400Hz±75Hz DEV.

4. OTHERS:
⇒ : Signal route.
∅ : Adjusting point.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
※ marked capacitors and resistors have parts numbers.
This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCHES: (The underlined indicates the switch position)
SP SW ASSEMBLY
S701 : SPEAKERS A — A+B

	RX-1180 /KU	RX-1180 /SD, SD/G	RX-1190 /KUC
R735,R740	0.33(5W)X2 ACN-139	0.33(5W)X2 ACN-135	0.27(5W)X2 ACN1018
RY701	ASR-105 (ASR-112)	ASR-105	ASR-112
TB01	ATT1011	ATT1041	ATT1011
RB16	ACH-208	- - - -	ACH-208

6.5 CONTROL SECTION



1. RESISTORS:
   Indicated in Ω, 1/4W, 1/6W and 1/8W, ±5% tolerance unless otherwise noted k; kΩ, M; MΩ, (F); ±1%, (G); ±2%, (K); ±10%, (M); ±20% tolerance.

2. CAPACITORS:
   Indicated in capacity (μF)/voltage (V) unless otherwise noted p;pF. Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE, CURRENT:
   [V] ; Signal voltage at 110V±110W, 8Ω output (1kHz).
   \ | ; DC voltage (V) at no input signal.
   Value in ( ) is DC voltage at rated power.
   ⇦ mA ; DC current at no input signal.
   [mV] ; Signal voltage at FM 400Hz±75Hz DEV.

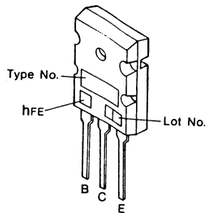
4. OTHERS:
   ➡ ; Signal route.
   ⌀ ; Adjusting point.
   The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
   ※ marked capacitors and resistors have parts numbers.

   This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

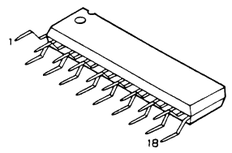
5. SWITCHES: (The underlined indicates the switch position)
   CONTROL ASSEMBLY
   S151 : CD
   S152 : PHONO
   S153 : TUNER
   S154 : TAPE
   S155 : VIDEO/AUX
   S156 : VOLUME +
   S157 : VOLUME −
   S158 : BALANCE L
   S159 : BALANCE R
   S160 : MUTING
   S161 : 1/13
   S162 : 2/14
   S163 : 3/15
   S164 : 4/16
   S165 : 5/17 STATION CALL
   S166 : 6/18
   S167 : 7/19
   S168 : 8/20
   S169 : 9/21
   S170 : 10/22
   S171 : 11/23
   S172 : 12/24
   S173 : POWER (STANDBY/ON)
   S174 : TUNING +
   S175 : TUNING −
   S176 : AUTO/MANUAL
   S177 : FM MONO
   S178 : MEMORY
   S179 : BAND (FM/AM)
   TAPE ASSEMBLY
   S180 : DOLBY NR
   S181 : SYNCHRO
   S182 : HIGH SPEED

External Apperance of Transistor and ICs

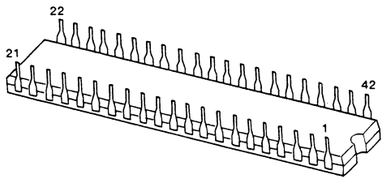
2SA1302
2SC3281



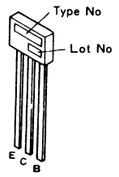
BA3812L



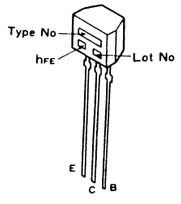
LC7570



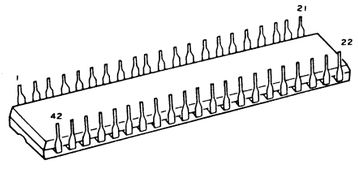
RN1201
RN1203
RN2203
RN2201
2SC3400
2SA1346



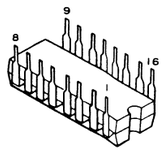
2SC2458
2SA1048



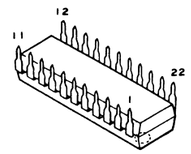
PDG005-C



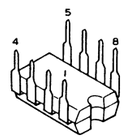
AN7470P
CXA1100P
CXD1120P
LM7001



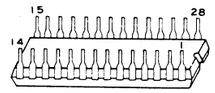
LA1265S



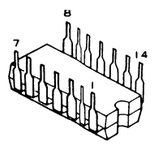
M5218P
M5218PF



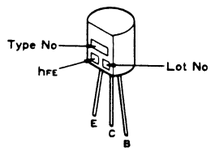
PDE018
TC9164N



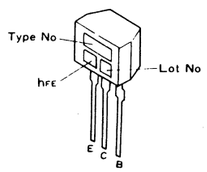
TC4069UBP



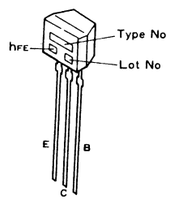
2SA1515



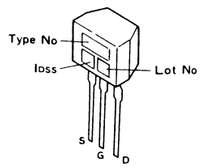
2SC1740S
2SC1740SLN
2SC2668
2SA933S



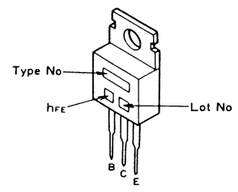
2SC2786



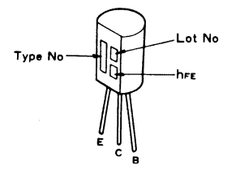
2SK161
2SK241



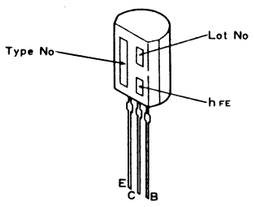
2SA968
2SC2238



2SA992
2SC1845



2SC2235
2SC3377



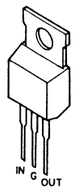
2SC2240

2SC2603
2SA1115

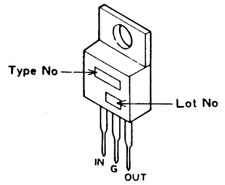
2SC2705

2SJ103
2SK246
2SK373

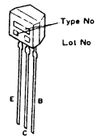
HA17812W



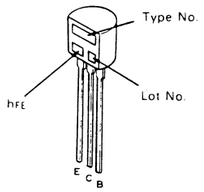
μPC78M12H



DTC143ES
DTA143ES
DTA124ES



2SC2389



7. P. C. BOARDS CONNECTION DIAGRAM

NOTE

1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
Q504 (E)	or	Transistor
Q215	or	Radiator type transistor
D203	D203	Diode

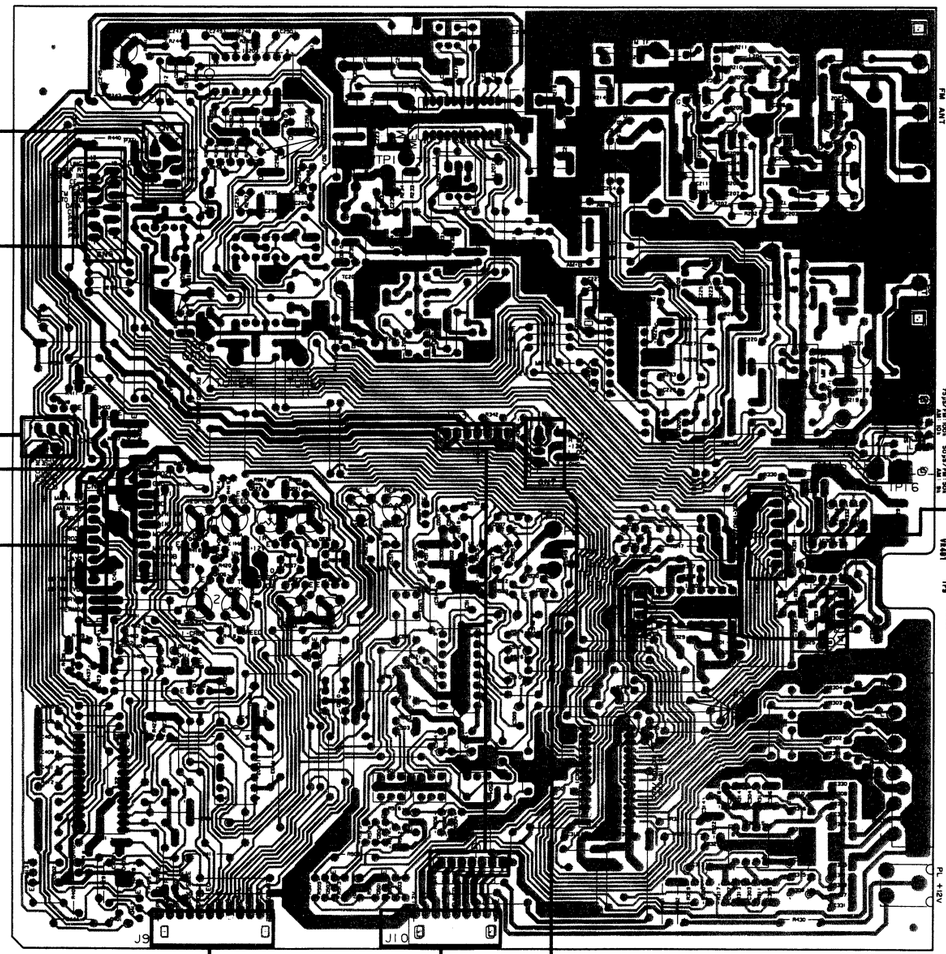
P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
R237	R237	Resistor
C513	C513	Capacitor (Polarity)
C518	C518	Capacitor (Non-polarity)

Others

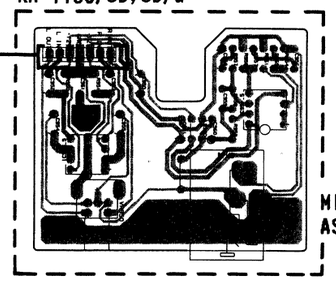
P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capacitor terminal marked with ⓞ (double circles) shows negative terminal.
4. The diode terminal marked with ⓞ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

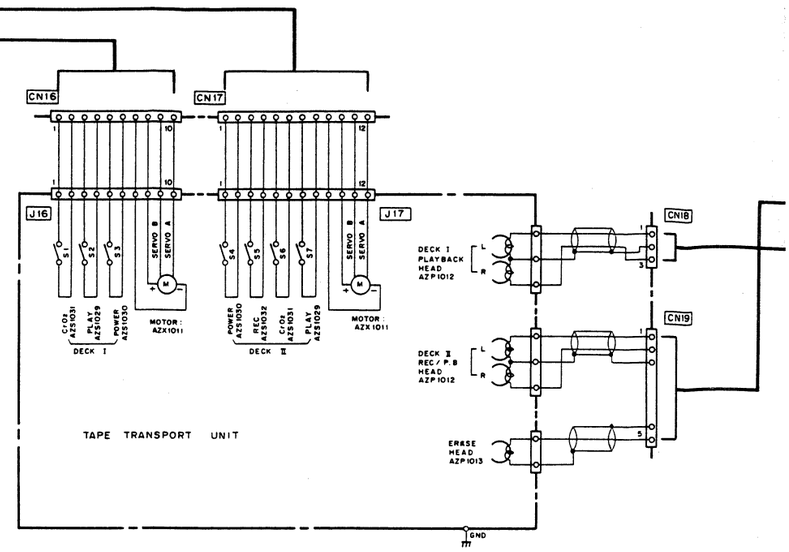
COMPLEX ASSEMBLY A AWM1054(RX-1180/KU, RX-1190/KUC) AWM1060(RX-1180/SD, SD/G)



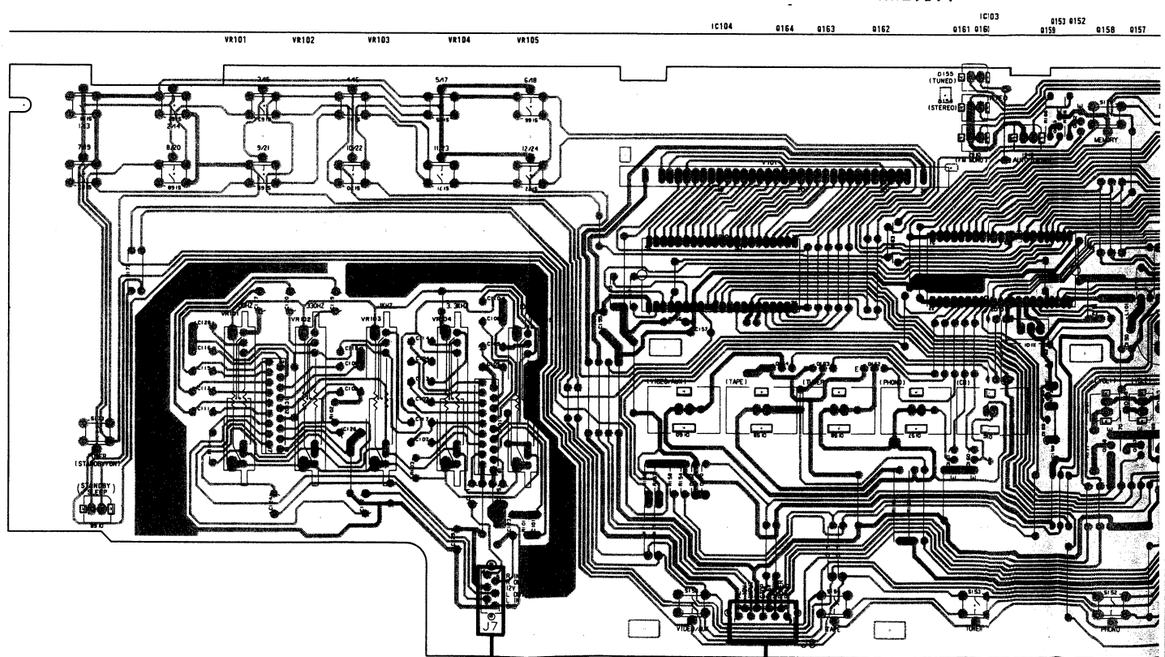
RX-1180/SD, SD/G



MIC ASSEMBLY



CONTROL ASSEMBLY AWZ1371



FRONT

7 8 9 10 11

A B C D

CN18

CN19

TAPE ASSEMBLY

WZ1371

REMOTE SENSOR

FRONT

T1

AC OUTLET SWITCHED 100W MAX

6.3A-125V

AC POWER CORD

AC 120V 60Hz

2A-125V

MAIN ASSEMBLY
AWZ1373(RX-1180/KU)
AWZ1407(RX-1180/SD, SD/G)
AWZ1408(RX-1190/KUC)

REG. A ASSEMBLY

REG. B ASSEMBLY

CONTROL OUT

SPEAKERS

BEAT CUT

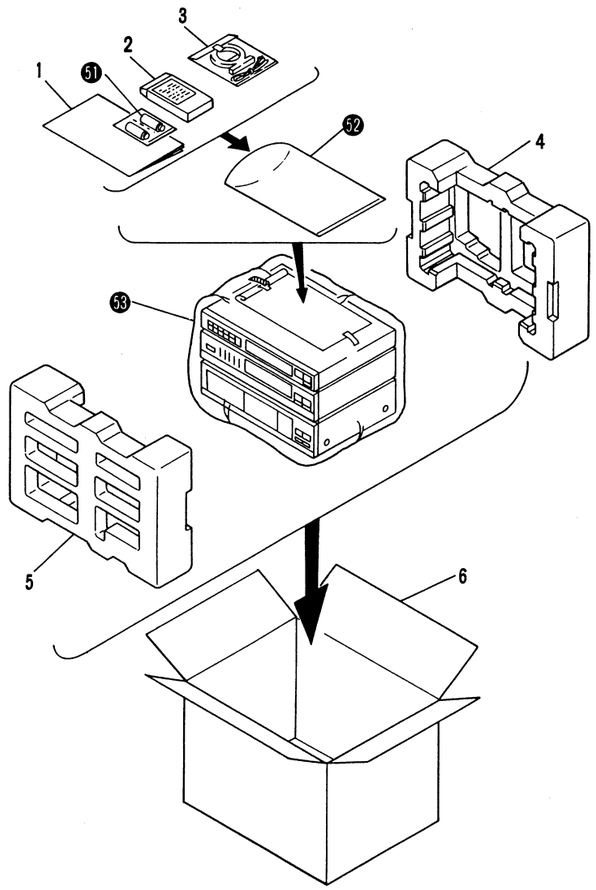
SP TERM ASSEMBLY

SP SW ASSEMBLY

7 8 9 10 11 12

8. PACKING

Mark	No.	Part no.	Description
	1	ARB1057	Operating instructions (English)
	2	AXD1022	Remote control unit
	3	AEA1007	Antenna set
	4	AHA1060	Rear pad
	5	AHA1059	Front pad
	6	AHD1274	Packing case
	51		Battery
	52		Vinyl bag
	53		Vinyl sheet



9. ADJUSTMENTS

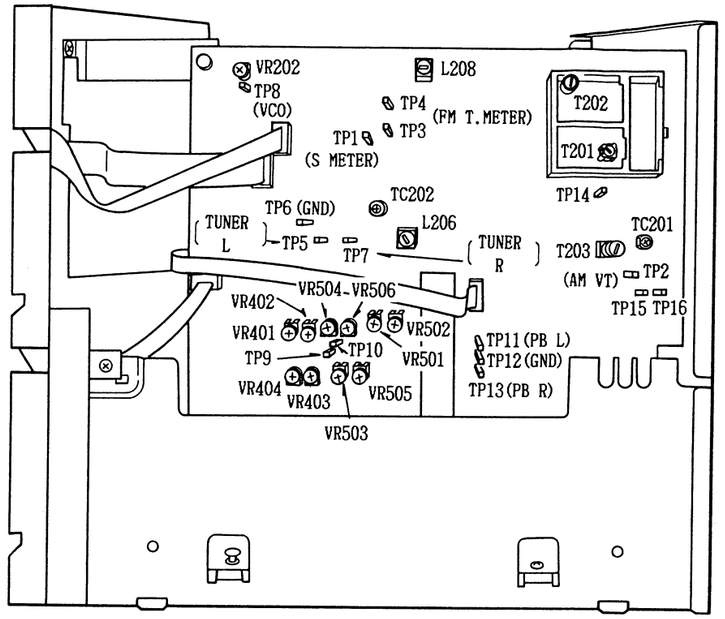


Fig. 9-1 Adjustment point (Complex assembly A)

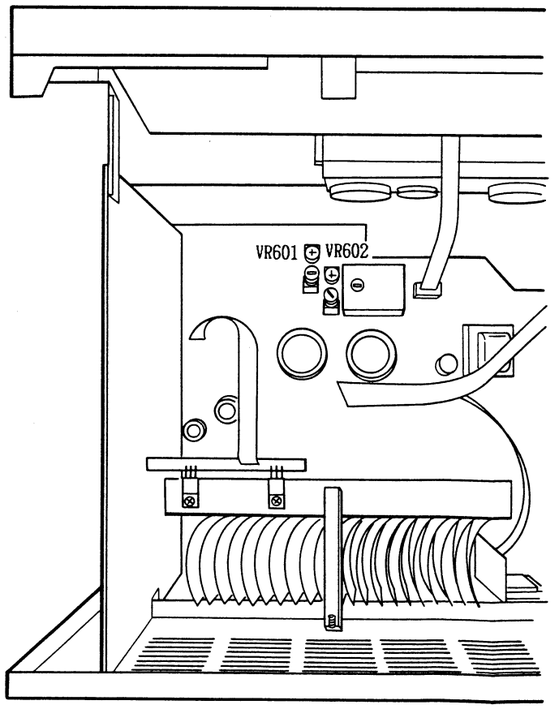


Fig. 9-2 Adjustment point (Main assembly)

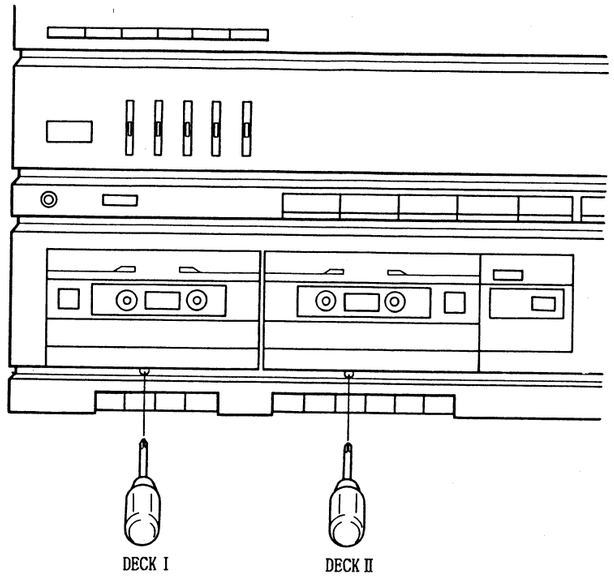


Fig.9-3 Adjustment point (Head azimuth adjustment)

Test tape	STD-331B
DOLBY NR switch position	OFF

● The right channel is corrected by -0.5 at 125Hz and -1dB at 63Hz to compensate for edge effect.

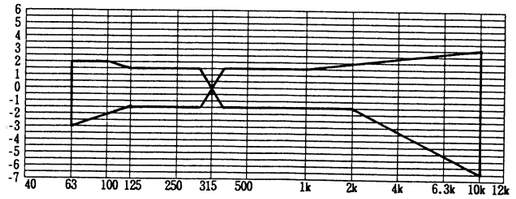


Fig.9-4 Playback frequency responce toleranse zone

Test tape	STD-608A	Test tape	STD-608A
DOLBY NR switch	OFF	DOLBY NR switch	ON

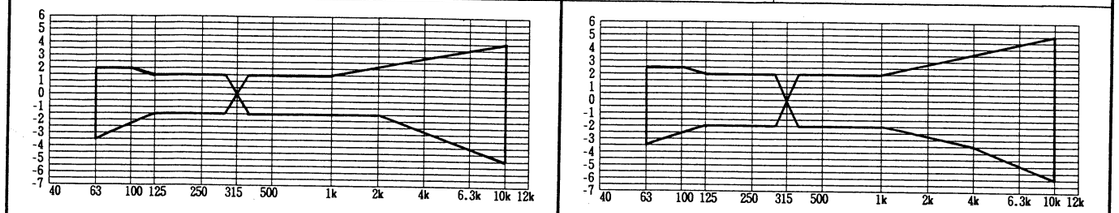


Fig.9-5 Recording & playback frequency response tolerance zone (NORM)

Test tape	STD-620	Test tape	STD-620
DOLBY NR switch	OFF	DOLBY NR switch	ON

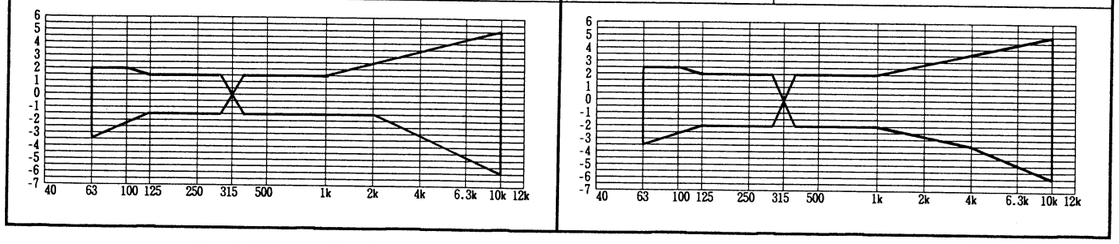
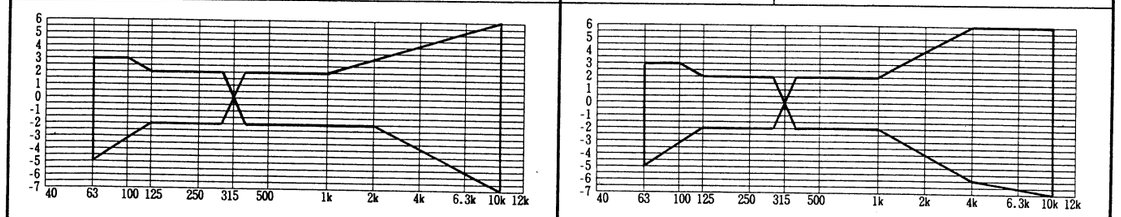


Fig.9-6 Recording & playback frequency response tolerance zone (CrO_2)

Test tape	STD-608A	Test tape	STD-608A (HIGH SPEED COPY)
DOLBY NR switch	OFF	DOLBY NR switch	OFF



Test tape	STD-620	Test tape	STD-620 (HIGH SPEED COPY)
DOLBY NR switch	OFF	DOLBY NR switch	OFF

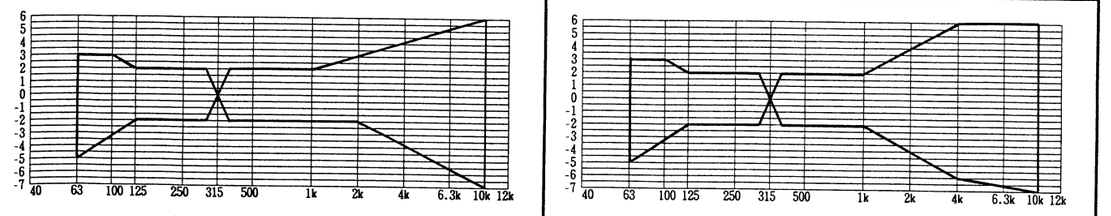


Fig.9-7 Copy mode recording & playback frequency response (for reference purposes)

9.1 TAPE DECK SECTION

Tape speed adjustment

1. Connect the frequency counter to the TP11 terminal (Dolby TP: L-ch) on the complex assembly A.
2. Turn the tape switch on.
3. Mount the test tape STD-301 onto deck I.
4. Short-circuit between terminals TP9 and TP10 on the complex assembly A and put the deck I into play mode.
   (STD-301 is play backed in double speed.)
5. Adjust with VR401 so that the playback signal frequency of deck I become 6000Hz $^{+180}_{-120}$ Hz.
6. Release the short-circuit between terminals TP9 and TP10.
7. Put the deck I into play mode and adjust with VR402 so that the playback signal frequency becomes 3000Hz $^{+90}_{-60}$ Hz.
   (Note 1: Be sure not to turn VR401 while performing the normal speed adjustment.)
8. At this point, be sure to confirm that the wow and flutter are within 0.3% both in the double and normal speeds.
9. Mount the test tape STD-301 onto deck II.
10. Short-circuit between terminals TP9 and TP10 on the complex assembly A and put the deck II into play mode.
    (STD-301 is play backed in double speed.)
11. Adjust with VR403 so that the playback signal frequency of deck II becomes 6000Hz $^{+180}_{-120}$ Hz.
12. Release the short-circuit between terminals TP9 and TP10.
13. Put the deck II into play mode and adjust with VR404 so that the playback signal frequency of deck II becomes 3000Hz $^{+90}_{-60}$ Hz.
    (Note: Be sure not to turn VR403 while performing the normal speed adjustment.)
14. At this point, be sure to confirm that the wow and flutter are within 0.3% both in the double and normal speeds.

Electrical system adjustment

Prior to the electrical system adjustment, be sure to confirm the following items.

1. The mechanical adjustment should be completed.
2. Perform cleaning of the head and the demagnetization of head with the head eraser.
3. The level during measurement is determined at 0dBv = 1V.
4. The specified tape should be used for adjustment. Since the test tape has A side and B side, use the A side with label.
   STD-331B: For playback system adjustment
   STD-608A: Normal blank tape
   STD-620: CrO_2 blank tape
5. Prepare the following measuring instruments.
   AC millivoltmeter, low frequency oscillatore, attenuator, and oscilloscope.
6. For the adjustment, perform both L and R channels unless otherwise specified.
7. Turn the Dolby NR switch to off unless otherwise specified.
8. Prior to the adjustment, be sure to perform aging of the set for several minutes.
   Especially prior to entering the adjustment of the recording and playback frequency characteristics, aging should be performed in REC/PLAY mode for 3 to 5 minutes.
9. The adjustment should be performed in accordance with the adjustment order. If the order is not kept it may cause the failure of the complete adjustment which induces the inferior function of the unit.

Deck I

1. Head azimuth adjustment
2. Playback level adjustment

Deck II

1. Head azimuth adjustment
2. Playback level adjustment
3. Adjustment of recording and playback frequency characteristics
4. Adjustment of recording level

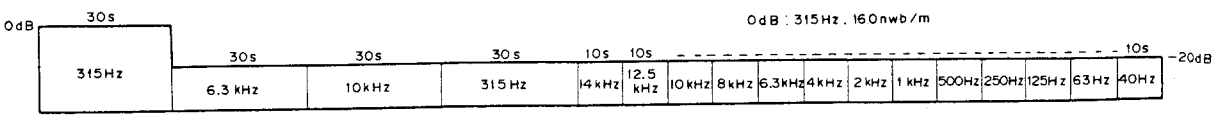


Fig.9-8 Test tape STD-331B

Adjustment of Deck I

* This deck is provided with an auto-tape-selector mechanism.

1. Head azimuth adjustment

Procedure	Tape selector (AUTO)	Mode	Input signal/test tape	Adjusting point	Measuring point	Adjustment value	Remark
1	NORM	PLAY	Play back 10kHz/-20dB on test tape STD-331B	Head azimuth adjusting screw (Fig.9-3)	TP11 (L) TP13 (R)	Maximum playback signal level	After completion, lock the screw

2. Playback level adjustment * Perform this adjustment precisely since this adjustment is Dolby level setting during playback.

Procedure	Tape selector (AUTO)	Mode	Input signal/test tape	Adjusting point	Measuring point	Adjustment value	Remark
1	NORM	PLAY	Play back 315Hz/0dB on test tape STD-331B	VR503 (L) VR504 (R)	TP11 (L) TP13 (R)	−5.2dBv±2dB	

Adjustment of Deck II

* This deck is provided with an auto-tape-selector mechanism.

1. Head azimuth adjustment

Procedure	Tape selector (AUTO)	Mode	Input signal/test tape	Adjusting point	Measuring point	Adjustment value	Remark
1	NORM	PLAY	Play back 315Hz/0dB on test tape STD-331B	Head azimuth adjusting screw (Fig.9-3)	TP11 (L) TP13 (R)	Maximum playback signal level	After completion, lock the screw.

2. Playback level adjustment * Perform this adjustment precisely since this adjustment is Dolby level setting during playback.

Procedure	Tape selector (AUTO)	Mode	Input signal/test tape	Adjusting point	Measuring point	Adjustment value	Remark
1	NORM	PLAY	Play back 315Hz/0dB on test tape STD-331B	VR505 (L) VR506 (R)	TP11 (L) TP13 (R)	−5.2dBv±2dB	

3. Recording level adjustment Deck II * Set the graphic equalizer and balance volume to the center and the mic mixing volume to the source side.

Procedure	Tape selector (AUTO)	Mode	Input signal/test tape	Adjusting point	Measuring point	Adjustment value	Remark
1	NORM	REC/ PLAY	Apply the signal of 315Hz at 150mV to AUX (L) terminal	VR501 (Lch Recording lelvel)	TP11 (L)	−13.1dBv ± 2dB	
2	NORM	REC/ PLAY	Apply the signal of 10kHz at 150mV to AUX (L) terminal	VR601 (Lch Recording bias level)	TP11 (L)	−13.1dBv ± 2dB	VR601 is on the MAIN Assembly
3	NORM	REC/ PLAY	Apply the signal of 315Hz at 150mV to AUX (R) terminal	VR502 (Rch Recording level)	TP13 (R)	−13.1dBv ± 2dB	
4	NORM	REC/ PLAY	Apply the signal of 10kHz at 150mV to AUX (R) terminal	VR602 (Rch Recording bias level)	TP13 (R)	−13.1dBv ± 2dB	VR602 is on the MAIN Assembly

9.2 TUNER SECTION

FM TUNER SECTION

- Connect FM signal generator (FM SG) to the FM ANTENNA 300Ω terminal through a 300Ω dummy antenna.
- Set to the FM band.

(*1) Tune the FM SG to the set.

(*2) Connect the FM multiplex stereo signal generator to the FM SG external modulator terminal. Set the modulation to Main 1kHz/L+R/±68.25kHz deviation, Pilot 19kHz/±6.75kHz deviation.

Step	FM SG (1kHz±75kHz dev.)		Frequency display	Adjustment point	Adjustment procedure
	Frequency	Level			
1	98.0MHz (*1)	20dB	98.0MHz	T201, T202	Adjustment until DC voltage between terminal TP1 and ground is maximum.
2	98.0MHz (*1)	66dB	98.0MHz	L208	Adjust DC voltage between terminal TP3 and TP4 (FM T METER) 0±10mV.
3	98.0MHz (*1) / not modulation	66dB	98.0MHz	VR202	Adjust signal between terminal no.8 (VCO) and ground to 76kHz (within ± 100Hz).
4	98.0MHz (*1) / Stereo modulation (*2) (Main = 1kHz, L or R)	66dB	98.0MHz	T202 (within±90°)	Adjust until distortion at TP5 (TUNER L) and TP7 (TUNER R) is equally minimum.

AM TUNER SECTION

- Connect the furnished AM loop antenna between terminals AM ANTENNA and GND.
- Connect the AM signal generator (AM SG) to the AM ANTENNA terminal through a 10kΩ resistor.
- Set to the AM (MW) band.

(*3) For the AM band, 10-kHz and 9-kHz channel steps are provided; therefore, use the frequency specification in the "10-kHz step" procedure for 10-kHz steps and the frequency specification in the "9-kHz step" procedure for 9-kHz steps.

(*4) Tune the AM SG to the set.

Step	AM SG (400Hz, 30% modulation)			Frequency display (*3)		Adjustment point	Adjustment procedure
	Frequency (*3)		Level				
	10kHz step	9kHz step		10kHz step	9kHz step		
1	No signal			530kHz	531kHz	L206	1.3VDC±0.1VDC between TP2 (AM VT) and ground.
2	No signal			1600kHz	1602kHz	TC202	10VDC ± 0.5VDC between TP2 (AM VT) and ground.
3	Repeat steps 1 and 2 until both specifications are correct.						
4	600kHz (*4)	603kHz (*4)	76dB	600kHz	603kHz	T203	Adjust until maximum DC voltage is obtained between TP1 and ground.
5	1400kHz (*4)	1395kHz	76dB	1400kHz		TC201	
6	Repeat steps 4 and 5 until maximum sensitivity is obtained.						

10. ELECTRICAL PARTS LIST

NOTES:

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	*56 × 10¹*	*561*	*RD1/4PS 5 6 1 J*
47kΩ	*47 × 10³*	*473*	*RD1/4PS 4 7 3 J*
0.5Ω	*0R5*		*RN2H 0 R 5 K*
1Ω	*010*		*RS1P 0 1 0 K*

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ	*562 × 10¹*	*5621*	*RN1/4SR 5 6 2 1 F*

Miscellaneous Parts

P. C. BOARD ASSEMBLIES

Mark	Symbol & Description	Part No.
	REG.A assembly	
	REG.B assembly	
	SP TERM assembly	
	CONTROL assembly	AWZ1371
	Complex assembly A	AWM1054
	MAIN assembly	AWZ1373
	SP SW assembly	
	TAPE assembly	

OTHERS

Mark	Symbol & Description	Part No.
⚠★★	Q3,Q4	2SA1302
⚠★★	Q1,Q2	2SC3281
⚠ ★	T1 Power transformer	ATS1072
⚠	1P AC Socket (AC OUTLET)	AKP1015
⚠★★	FU2,FU3 Fuse (2A,125V)	AEK-122
⚠★★	FU1 Fuse (6.3A,125V)	AEK-309
⚠	AC Power cord	ADG-077
⚠	AC strain relief	AEP-113
	S2,S7 Leaf switch (PLAY)	AZS1029
	S3,S4 Leaf switch (POWER)	AZS1030
	Motor	AZX1011
	S1,S6 Leaf switch (CrO_2)	AZS1031
	S5 Leaf switch (REC)	AZS1032
	REC/P.B head	AZP1012
	Erase head	AZP1013

REG.A Assembly

SEMICONDUCTOR

Mark	Symbol & Description	Part No.
★★	IC802	HA17812W

CAPACITORS

Mark	Symbol & Description	Part No.
	C818	CEHAQ100M25
	C816	CEHAQ470M16

REG.B Assembly

SEMICONDUCTOR

Mark	Symbol & Description	Part No.
★★	IC801	μPC78M12H

CAPACITORS

Mark	Symbol & Description	Part No.
	C813	CEHAQ100M25
	C817	CEHAQ470M16

SP TERM Assembly

SWITCH

Mark	Symbol & Description	Part No.
★★	S601 Slide switch (BEAT CUT)	ASH1015

OTHERS

Mark	Symbol & Description	Part No.
	8P Terminal (SPEAKERS)	AKE-111
	Mini jack (CONTROL IN)	AKN-207

CONTROL Assembly (AWZ1371)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC101, IC102	BA3812L
★★	IC104	LC7570
★★	IC103	PDG005-C
★★	Q151	RN1201 (DTC143ES)
★★	Q152－Q158, Q165	RN1203 (2SC3400)
★★	Q150	RN2201 (DTA143ES)
★★	Q159	2SC2458 (2SC1740S) (2SC2603)
★★	Q160－Q164	RN1201
★	D154, D163－D167	AEL1009
★	D161, D162	AEL1015
★	D155	AEL1024
★	D156－D160	AEL1039
★	D168	AEL1040
★	D150－D153, D169, D170, D175－D179	1SS131

SWITCHES

Mark	Symbol & Description	Part No.
★★	S151－S179 Tact switch (FUNCTION, VOLUME, BALANCE, MUTING, POWER, TUNING, AUTO/MANUAL, FM MONO, MEMORY, BAND, ST-CALL)	ASG-711

CAPACITORS

Mark	Symbol & Description	Part No.
	C150 (0.047F/5.5V)	ACH1037
	C101, C102	CCDSL101J50
	C119, C120	CEASR22M50
	C127, C128	CEASR47M50
	C129	CEAS470M16
	C121－C124, C159	CEJA4R7M50
	C125, C126	CEJA470M16
	C103, C104	CKDYB122K50
	C105, C106	CKDYB391K50
	C107, C108	CKDYB392K50
	C109, C110	CKDYB682K50
	C158	CKDYB822K50
	C155－C157	CKDYF473Z50
	C151, C152	CKDYX104M25
	C111, C112	CKDYX123M25
	C113, C114	CKDYX223M25
	C115, C116	CKDYX393M25
	C117, C118	CKDYX683M25

RESISTORS

Mark	Symbol & Description	Part No.
★	VR101－VR105 Variable resistor (GRAPHIC EQUALIZER, 100kΩ)	ACU1016
	R148, R162－R172	RD1/4PM□□□J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
★	V101 Fluorescent indicator tube	AAV-023
★	X101 Ceramic resonator (4.000MHz)	ASS1010
	Remoto control sonsor unit	AXX1005
	L101 Inductor	LAU101K

Complex Assembly A (AWM1054)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC203	AN7470P
★★	IC501	CXA1100P
★★	IC303	CXD1120P
★★	IC201	LA1265S
★★	IC202	LM7001
★★	IC301	M5218P
★★	IC304	M5218PF
★★	IC401	PDE018
★★	IC402	TC4069UBP
★★	IC302	TC9164N
★★	Q301－Q303, Q409, Q410	RN1201 (DTC143ES)
★★	Q206, Q408, Q412	RN1203 (2SC3400)
★★	Q207	RN2201 (DTA143ES)
★★	Q205, Q511, Q512	RN2203 (DTA124ES) (2SA1346)
★★	Q405, Q406	2SA1048 (2SA1115) (2SA933S)
★★	Q401, Q403	2SA1515
★★	Q208, Q209	2SC1740SLN
★★	Q407, Q411, Q413, Q501－Q510, Q521－Q526	2SC2458
★★	Q203, Q204	2SC2668
★★	Q202	2SC2786
★★	Q212	2SK161
★★	Q201	2SK241
★	D207	KV0714
★	D301	RD5.1ESB
★	D302	RD6.2ESB
★	D403	RD6.8ESB
★	D209－D215, D401, D402, D404－D411, D501, D502	1SS131
★	D201－D203	1SV147

COILS, TRANSFORMERS AND FILTERS

Mark	Symbol & Description	Part No.
	L206 AM OSC coil	ATB1003
	L201 FM coil	ATC1001
	L202 FM coil	ATC1002
	L203 FM coil	ATC1003
	L208 FM detector coil	ATE1003
	L503, L504 Trap coil	ATM1001
	L204, L205 Axial inductor (2.2μH)	LAU2R2M
	L401 Axial inductor (220μH)	LAU221K
	L207 Inductor (4.7mH)	LTA472J
	T203 AM antenna transformer	ATB-095
	T201 FM RF transformer	ATC-194
	T202 FM matching transformer	ATE-063
	F201 FM ceramic filter	ATF-107
	F202 FM ceramic filter	ATF-119
	F203 AM ceramic filter	ATF-208
	F501, F502 Dolby filter	ATF-210

CAPACITORS

Mark	Symbol & Description	Part No.
	TC201, TC202 Ceramic trimmer	ACM-015
	C401	CCCCH680J50
	C303, C304	CCCSL101J50
	C326, C327	CCCSL121J50
	C213	CCDCH010C50
	C210	CCDCH080D50
	C208, C227, C228	CCDCH150J50
	C209	CCDCH330J50
	C201, C202, C204, C205	CCDRH330J50
	C206	CCDSL020C50
	C214	CCDSL050C50
	C215	CCDSL101J50
	C244	CCDSL221J50
	C211	CCDTH180J50
	C221	CCDUJ070D50
	C251	CEANP100M16
	C250	CEASR22M50
	C224, C226	CEASR47M50
	C510, C511	CEASR68M50
	C241	CEAS0R1M50
	C243, C322, C323, C402, C409, C505	CEAS010M50
	C249	CEAS1R5M50
	C223, C231, C236, C301, C302, C423, C506, C507, C512－C515	CEAS100M25
	C309, C310	CEAS101M10
	C242, C245, C262, C421, C509	CEAS101M16
	C237, C257, C258, C501, C502, C540, C541	CEAS2R2M50
	C233, C248	CEAS3R3M50
	C324, C325	CEAS330M16
	C232, C313, C314, C320, C503, C504, C546, C547	CEAS4R7M50
	C252, C311, C312, C403, C424, C425, C508	CEAS470M16
	C328, C329	CEYA470M16
	C217	CKCYB102K50
	C330, C331	CKCYB391K50
	C235	CKCYB562K50
	C307, C308	CKCYB822K50
	C404－C408, C418	CKCYF103Z50
	C230, C238, C239, C315, C316	CKCYF473Z50
	C253, C254, C548, C549	CKDYB152K50
	C259, C260	CKDYB182K50
	C305, C306	CKDYB222K50
	C203, C207, C212, C216, C218－C220, C225, C229, C263, C264	CKDYF103Z50
	C240	CKDYF223Z50
	C234, C246, C261, C419, C420	CKDYF473Z50
	C332	CKDYX104M25
	C222	CQSA431J50
	C247	CQSA471J50

RESISTORS

Mark	Symbol & Description	Part No.
★	VR202 Semi-fixed (4.7kΩ)	VRTB6VS472
★	VR402, VR404 Semi-fixed (1kΩ)	VRTM6V102
★	VR401, VR403 Semi-fixed (2kΩ)	VRTM6V202
★	VR501－VR506 Semi-fixed (20kΩ)	VRTM6V203
⚠	R430－R432	RD1/2PMF6R8J
⚠	R227, R238, R243, R266	RD1/4PMF□□□J
	R440	RD1/4PM2R7J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
★	X202 Crystal resonator (7.200MHz)	ASS1009
★	X201 Ceramic resonator (450.0kHz)	ATF-125
	4P Terminal (ANTENNA)	AKA-017
	9P Socket	AKP-046
	6P Pin jack (PHONO, CD, VIDEO/AUX)	AKB1023
	Mini jack (PL 12V)	AKN-207

MAIN Assembly (AWZ1373)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC601, IC902	M5218P
★★	IC901	TC4069UBP
★★	Q608, Q613, Q614, Q621, Q622, Q901－Q908	RN1203 (2SC3400)
★★	Q615, Q620	RN2203 (DTA124ES) (2SA1346)
★★	Q609, Q803	2SA1515
★★	Q713, Q714	2SA968
★★	Q701－Q704, Q758	2SA992
★★	Q755	2SC2235
★★	Q711, Q712	2SC2238
★★	Q705, Q706, Q751, Q752	2SC2240 (2SC1845) (2SC2389)
★★	Q601, Q602, Q605－Q607, Q612, Q753, Q754, Q804	2SC2458 (2SC1740S) (2SC2603)
★★	Q709, Q710, Q759	2SC2603
★★	Q707, Q708	2SC2705
★★	Q610, Q611, Q801, Q802	2SC3377
★★	Q618, Q619	2SJ103
★★	Q616, Q617	2SK246
★★	Q603, Q604	2SK373
★	D801	D5SB20F
★	D755	HZS12BL
★	D802	RB152
★	D807	RD10ESB
★	D805	RD13ESB
★	D705, D706, D709, D710, D803, D804	RD5.6ESB
★	D812	RD6.2ESB
★	D601－D607, D609－D614, D701－D704, D707, D708, D751－D754, D757－D760, D806, D813, D814	1SS131
★	D808－D811	11E2 (S5566)

RELAYS

Mark	Symbol & Description	Part No.
★★	RY701 Relay (PROTECTION)	ASR-109 (ASR-112)
★★	RY801 Relay (MUTING)	ASR1012 (ASR1013)

COILS AND TRANSFORMERS

Mark	Symbol & Description	Part No.
	L701, L702 AF choke coil (0.7 μH)	ATH1004
	L601, L602 Trap coil (105kHz)	ATM1002
	L603 Inductor (1mH)	LTA102J
	L901, L902 Inductor (3.9mH)	LTA392J
★	T801 Power transformer	ATT1011
★	T601 BIAS OSC transformer	ATX1002

CAPACITORS

Mark	Symbol & Description	Part No.
	C625 (820pF/630V)	ACE1006
⚠	C805, C806 (0.01μF/AC125V)	ACG1002
⚠	C807, C814, C815 (0.01μF/AC150V)	ACG1005
	C801, C802 (6800μF/80V)	ACH1036
	C711, C712	CCCSL020C500 (CCDSL020C500)
	C715, C716	CCCSL120D50 (CCDSL120D50)
	C621, C622	CCCSL100D50 (CCDSL100D50)
	C619, C620	CCCSL101K500 (CCDSL101K500)
	C719－C722	CCCSL151K500 (CCDSL151K500)
	C603, C604, C633	CCCSL221J50 (CCDSL221J50)
	C609, C610, C705, C706	CCCSL470J50 (CCDSL470J50)
	C646, C647	CCCSL680J50 (CCDSL680J50)
	C751, C752	CEANP2R2M50
	C756, C758	CEANP3R3M50
	C917, C918	CEASR33M50
	C629, C921, C922	CEASR47M50
	C755	CEAS010M100
	C605, C606, C643, C644	CEAS010M50
	C636, C701, C702	CEAS100M25
	C727	CEAS101M100
	C713, C714	CEAS101M16
	C754, C804	CEAS101M25
	C811	CEAS102M25
	C923, C924	CEAS2R2M50
	C803	CEAS222M25
	C607, C608, C911, C912	CEAS330M16
	C611, C612, C634, C635, C808, C809, C812, C913, C914	CEAS470M16
	C810	CEANP470M25
	C717, C718	CEAS470M50
	C753	CEAS471M6
	C729, C730	CEYA101M16
	C637, C641, C642, C909, C910	CFTXA153J50
	C903, C904	CFTXA183J50
	C615, C616	CFTXA223J50
	C723－C726	CFTXA823J50
	C648, C649, C707, C708	CKCYB102K50 (CKDYB102K50)
	C703, C704	CKCYB391K50 (CKDYB391K50)
	C626	CKCYB392K500 (CKDYB392K500)
	C601, C602	CKCYB471K50 (CKDYB471K50)

Mark	Symbol & Description	Part No.
	C627	CKCYB472K50 (CKDYB472K50)
	C709, C710	CKCYB122K500 (CKDYB122K500)
	C919, C920	CKCYB681K50 (CKDYB681K50)
	C623, C624	CKCYB821K50 (CKDYB821K50)
	C925	CKCYF103Z50 (CKDYF103Z50)
	C757	CKCYF473Z50 (CKDYF473Z50)
	C645	CKDYX104M25
	C907, C908	CQMA103J50
	C905, C906	CQMA152J50
	C630, C631	CQMA472J50
	C915, C916	CQMA562K50
	C613, C614, C632	CQMA682J50
	C901, C902	CQMA822J50

RESISTORS

Mark	Symbol & Description	Part No.
★	VR601, VR602 Semi-fixed (500kΩ)	VRTM6V504
	R739, R740 (0.33Ω/5W×2)	ACN-139
	R816 (2.2MΩ/1/2W)	ACN-208
	R715−R718	RDR1/4PM□□□J
⚠	R745, R746, R775, R810	RD1/2RMF□□□J
	R628	RD1/2PM820J
⚠	R751, R752, R769, R770, R805, R807, R818	RD1/4PMF□□□J
	R701−R714, R719−R722, R727−R732, R753−R757, R759, R760, R765−R768, R771−R773, R776, R777, R809	RD1/4PM□□□J
⚠	R733, R734, R737, R738, R741, R743, R744	RFA1/4PS□□□J
	R735, R736	RFA1/4PS221J
	R804	RS1LMF010J
	R764	RS2LMF182J
	Other resistors	RD1/8PM□□□J

SP SW Assembly

SWITCH

Mark	Symbol & Description	Part No.
★★	S701 Push switch (SPEAKERS)	ASG-413

RESISTORS

Mark	Symbol & Description	Part No.
	R747, R748	RS2LMF471J

OTHERS

Mark	Symbol & Description	Part No.
	Phone jack (PHONES)	AKN1010

TAPE Assembly

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★	D172, D173	AEL1009
★	D171	AEL1024
★	D174	AEL1038

SWITCHES

Mark	Symbol & Description	Part No.
★★	S180−S182 Tact switch (DOLBY, HI-SPEED, COPY)	ASG-711

RESISTORS

Mark	Symbol & Description	Part No.
	R175−R178	RD1/4PM102J
	R179, R180	RD1/8PM223J

11. IC INFORMATION

11.1 PDG005-C (IC103)

●Pin function

Pin	Standard voltage (V)	Pin name	I/O	Function and Operation ([ ] is active mode)	
				Compound (cassette receiver) mode	Amplifier single mode
1	H:>4.0 Pulse	PX0/$\overline{SC}$	Output	Serial clock output	
2	L:<0.4 (※1)	PX1/SOB		Serial data output	
3	H:>4.0 L:<1.0	PX2/SOA	Input	Mode appoint input pin	
				H [Compound(cassette receiver) mode]	L [Amplifier single mode]
4		PX3/SI		Auto stop signal input pin [H]	Not use (Open)
5	H:>4.0	PD0	Output	Key matrix output pin [L] (See Fig.11-1)	Key matrix output pin [L]
6	L:<0.4	PD1			
7	(※1)	PD2			
8		PD3			VOLUME LED output pin 1
9		PC0			2
10		PC1			3
11		PC2			4
12		PC3			5
13		PB0		POWER ON relay drive command output pin [H]	
14		PB1		Protection circuit relay drive command output pin [H]	
15		PB2		Chip enable signal output pin for PLL IC (This cassette receiver is used LM7001).	Muting command output pin [H] . ON at power is on.
16		PB3		Data enable signal output pin [H] for function IC (This cassette receiver is used TC9164N). Active mode is [H] only data transfer state.	Muting command output pin [H] . ON at power is on and VOLUME is minimum.
17		PA0		DOLBY control signal output pin [H]	Motor volume UP command output pin [H]
18		PA1		ST signal output pin [H] for function IC (This cassette receiver is used TC9164N)	
19		PA2		ST signal output pin [H] for electric volume (This cassette receiver is used CXD1120P-1).	
20		PA3		PAUSE control signal output pin [L]	Motor volume DOWN command output pin [H]
21		Vss		GND pin	
22	H:>4.0 L:<0.4	PE0		FM MONO command signal output pin [H]	Graphic equalizer LED output pin [H]
23	(※1)	PE1		Standby LED output pin [L]	
24		PE2		Remote control signal receive LED output pin [L] . Not use	
25		PE3		Function LED output pin [H]	AUX
26		PF0			TAPE
27		PF1			TUNER
28		PF2			PHONO
29		PF3			CD
30	H:>4.0 L:<1.0 (※1)	PG0/INT2	Input	Key matrix input pin [L] (See Fig.11-1)	Key matrix input pin [L]
31	H:>3.5	PG1			
32	L:<1.5	PG2			
33	(※1)	PG3			
34		XTAL		Ceramic oscillator connect pin	
35		EXTAL			
36	H:>4.0	$\overline{RST}$	Input	Reset signal input pin [L]	
37	L:<1.0	INT1		Remote control signal input pin [H]	
38	H:>4.0 L:<0.4	PY0	Output	WR signal output pin [H] for FL driver IC (This cassette receiver is used LC7570).	CD direct command signal output pin [H]
39		PY1		Not use (Open)	Bus equalizer output pin [H]
40	H:>4.0	PY2/WP	Input	Power supply detection input [H]	
41	L:<1.0	PY3/$\overline{EC}$		Key matrix input [L] (See Fig.11-1)	Key matrix input [L]
42	4.5 ~ 5.5	V_{DD}		Power supply voltage input pin	

(※1) : Three states output of H,L and Z (High impedance)

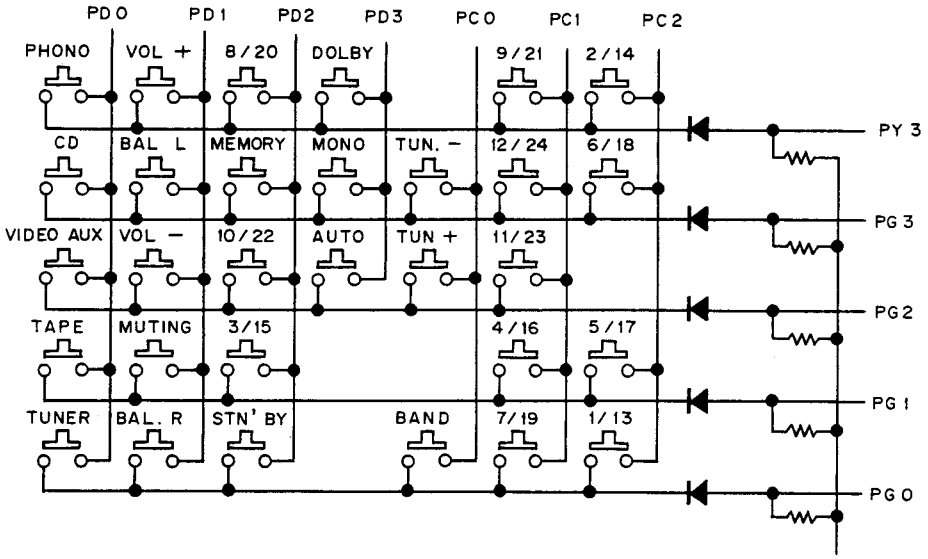


Fig.11-1 Key matrix

11.2 CXA1100P (IC501)

Dolby noise reduction B type

● Pin function

Pin	Standard voltage	Pin name	I/O	Function and operation
1,16	6V	REC IN	Input	Recording (Encode) input
2	12V	Vcc		Power supply
3,14	6V	PB IN	Input	Playback (Decode) input
4	6V	Vcc/2		Single supply → Vcc/2 Split supply → GND
5		ON/OFF		Mode control terminal for NR ON/OFF. H:NR OFF L:NR ON
6,11	6V	LINE OUT	Output	Line (Decode) output
7,10	0.3V	TC		Time constant terminal for the level detector.
8,9	6V	REC OUT	Output	Recording (Encode) output
12		REC/PB	Input/ Output	Mode control terminal for REC/PB (Encode/Decode) H:PB(Decode) L:REC(Encode)
13	1.2V	IREF	Input	Reference current input terminal for the active filters.
15	0V	GND		Single supply → GND Split supply → Vee

11.3 PDE018-B (IC401)

Mecha control microcomputer

● Pin function

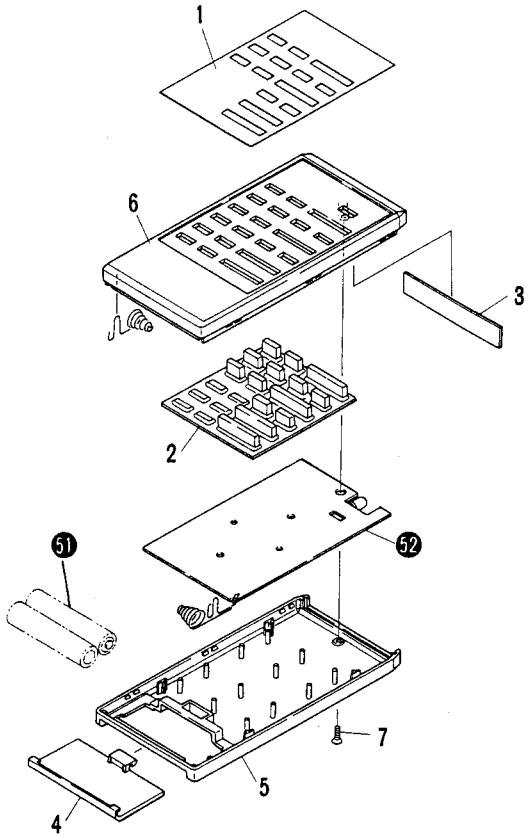
Pin	Standard voltage	Pin name	I/O	Function and operation	Active
1	H>3V	PD0	Output	DECK II REC LED L:ON	
2	L<1.5V	PD1		HI SPEED LED L:ON	
3		PD2		SYNCHRO LED L:ON	L
4		PD3		Normal/CrO_2 PLAY EQ switch L:CrO_2	
5		Extal	Input	Resonance circuit connection terminal	
6		Xtal	Input/ Output		
7	H>3.5V L<1.5V	$\overline{INT}$	Input	Quasi-interrupt request input	L
8		$\overline{RES}$		Reset input	L
9	H>3V	PE0	Output	DECK I motor ON/OFF L:ON	
10	L<1.5V	PE1		DECK II motor ON/OFF L:ON	L
11		PE2		Dolby NR mode switch L:REC	
12		PE3		DECK II head switch H:REC	
13		TEST	Input	Test pin of LSI (Connect to Vss)	
14	0V	Vss		GND	
15	H>3V	PF0	Output	Deck select H:DECK II	H
16	L<1.5V	PF1		Bias osc ON/OFF H:ON	H
17		PF2		REC mute L:ON	L
18		PF3		NORMAL/HI PLAY, REC EQ, motor H:HI SPEED	H
19		PG0		PLAY mute L:ON	L
20	5V	V_{DD}		Power supply voltage	
21	H>3V	PA0	Input	Function TAPE/OTHER L:TAPE	
22	L<1.5V	PA1		DECK I PLAY key L:ON	
23		PA2		DECK II PLAY key L:ON	L
24		PA3		DECK II REC key L:ON	
25		PC0		DECK II NORMAL/CrO_2 H:CrO_2	H
26		PC1		SYNCHRO switch	L
27		PC2		HI SPEED switch	
28		PC3		DECK I NORMAL/CrO_2 H:CrO_2	H

12. REMOTE CONTROL UNIT

12.1 AXD1022(FOR RX-1180/KU AND RX-1190/KUC TYPES)

EXPLODED VIEW AND PARTS LIST

Mark	No.	Part no.	Description
	1	AZA1070	Name plate
	2	AZA1072	Rubber switch
	3	AZA1056	Filter
	4	AZA1055	Case (C)
	5	AZA1054	Case (B)
	6	AZA1053	Case (A)
	7	AZB1057	Screw
	51		Battery
	52		Remote control transmitter assembly



ELECTRICAL PARTS LIST

NOTES:

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 *When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).*

560Ω	*56 × 10¹*	*561*	*..... RD1/4PS 5 6 1 J*
47kΩ	*47 × 10³*	*473*	*..... RD1/4PS 4 7 3 J*
0.5Ω	*0R5*		*..... RN2H 0 R 5 K*
1Ω	*010*		*..... RS1P 0 1 0 K*

Ex. 2 *When there are 3 effective digits (such as in high precision metal film resistors).*

5.62kΩ	*562 × 10¹*	*5621*	*..... RN1/4SR 5 6 2 1 F*

REMOTE CONTROL TRANSMITTER ASSEMBLY

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC1	AZC1028
★★	Q1	AZC1010
★★	Q2	AZC1040
★	D1	AEL-389

CAPACITORS

Mark	Symbol & Description	Part No.
	C1, C2	CCDSL101J50
	C3	CKDYB472K50
	C4	CEAS470M6

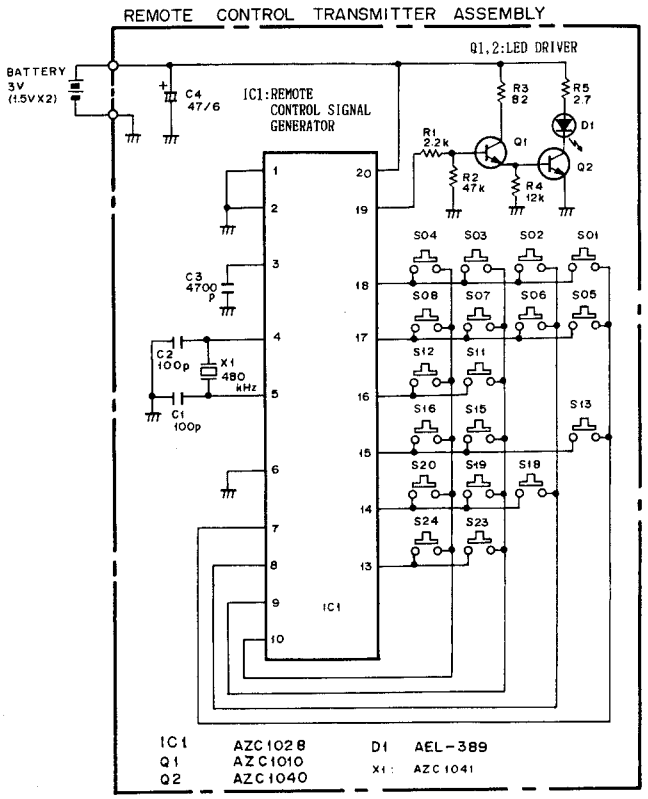
RESISTORS

Mark	Symbol & Description	Part No.
	R1 – R5	RD1/8PM□□ □J

OTHERS

Mark	Symbol & Description	Part No.
★	X1 Ceramic resonator	AZC1041

SCHEMATIC DIAGRAM



1. RESISTORS:
   Indicated in Ω, 1/4W, 1/6W and 1/8W, ±5% tolerance unless otherwise noted k; kΩ, M; MΩ, (F);±1%, (G);±2%, (K);±10%, (M);±20% tolerance.

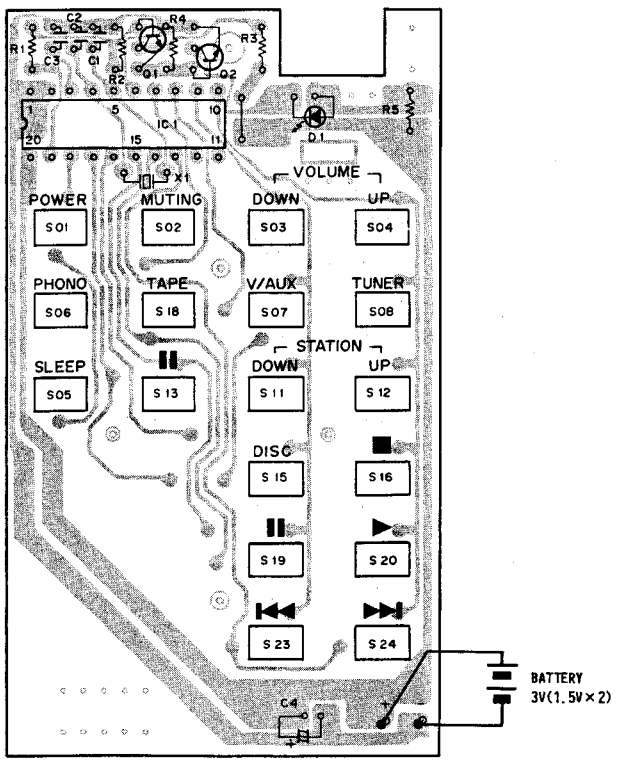
2. CAPACITORS:
   Indicated in capacity (μF)/voltage (V) unless otherwise noted p;pF. Indication without voltage is 50V except electrolytic capacitor.

3. OTHERS:
   ➡; Signal route.
   ⊘; Adjusting point.
   The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
   ※ marked capacitors and resistors have parts numbers.

   This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

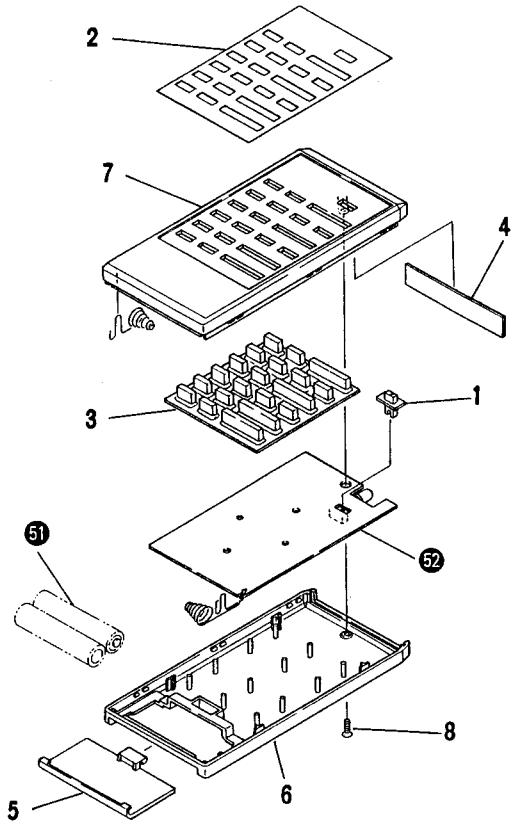
4. SWITCHES: (The underlined indicates the switch position)
   S01 : POWER
   S02 : MUTING
   S03 : VOLUME DOWN
   S04 : VOLUME UP
   S05 : SLEEP
   S06 : PHONO
   S07 : V/AUX
   S08 : TUNER
   S11 : STATION DOWN
   S12 : STATION UP
   S13 : TAPE PAUSE (⏸)
   S15 : DISC
   S16 : ■ (STOP)
   S18 : TAPE
   S19 : ⏸ (PAUSE)
   S20 : ▶ (PLAY)
   S23 : ⏮ (TRACK SEARCH)
   S24 : ⏭ (TRACK SEARCH)
   (S16, S19, S20, S23, S24 : CD FUNC)

P.C.BOARD PATTERN



12.2 AXD1021(FOR RX-1180/SD AND SD/G TYPES)

EXPLODED VIEW AND PARTS LIST



Mark	No.	Part no.	Description
	1	AZS1021	Knob
	2	AZA1069	Name plate
	3	AZA1071	Rubber switch
	4	AZA1056	Filter
	5	AZA1055	Case (C)
	6	AZA1054	Case (B)
	7	AZA1053	Case (A)
	8	AZB1057	Screw
	51		Battery
	52		Remote control transmitter assembly

ELECTRICAL PARTS LIST

NOTES:

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	*56 × 10¹*	*561*	*RD1/4PS 5 6 1 J*
47kΩ	*47 × 10³*	*473*	*RD1/4PS 4 7 3 J*
0.5Ω	*0R5*		*RN2H 0 R 5 K*
1Ω	*010*		*RS1P 0 1 0 K*

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ	*562 × 10¹*	*5621*	*RN1/4SR 5 6 2 1 F*

REMOTE CONTROL TRANSMITTER ASSEMBLY

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC1	AZC1028
★★	Q1	AZC1039
★★	Q2	AZC1040
★	D1	AEL-389

SWITCH

Mark	Symbol & Description	Part No.
★★	SW1 Slide switch (A/V)	AZS1041

CAPACITORS

Mark	Symbol & Description	Part No.
	C4	CEAS470M6
	C3	CKDYB472K5□
	C1,C2	CCDSL101J5□

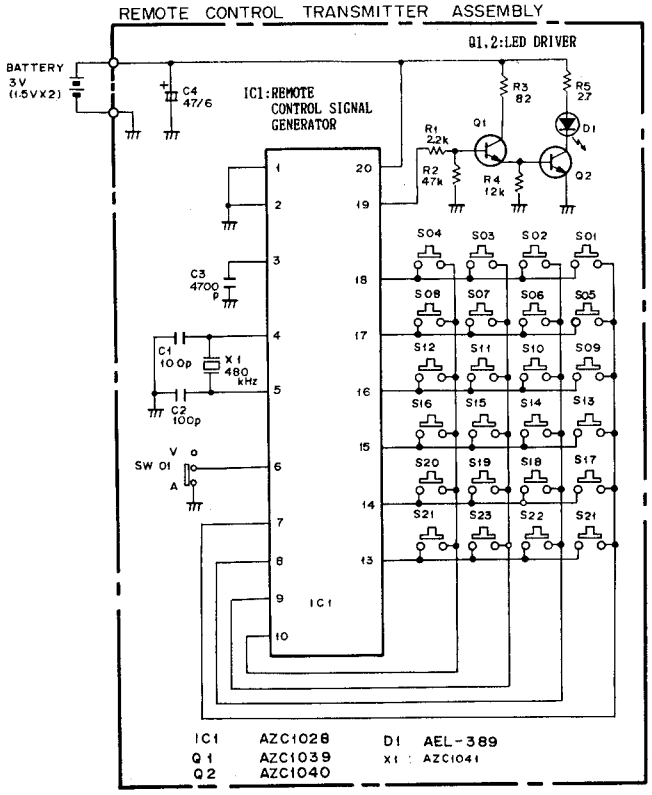
RESISTORS

Mark	Symbol & Description	Part No.
	R1−R5	RD1/8PM□ □□J

OTHERS

Mark	Symbol & Description	Part No.
★	X1 Ceramic resonator	AZC1041

SCHEMATIC DIAGRAM



1. RESISTORS:
   Indicated in Ω, 1/4W, 1/6W and 1/8W, ±5% tolerance unless otherwise noted k; kΩ, M; MΩ, (F);±1%, (G);±2%, (K);±10%, (M);±20% tolerance.

2. CAPACITORS:
   Indicated in capacity (μF)/voltage (V) unless otherwise noted p;pF. Indication without voltage is 50V except electrolytic capacitor.

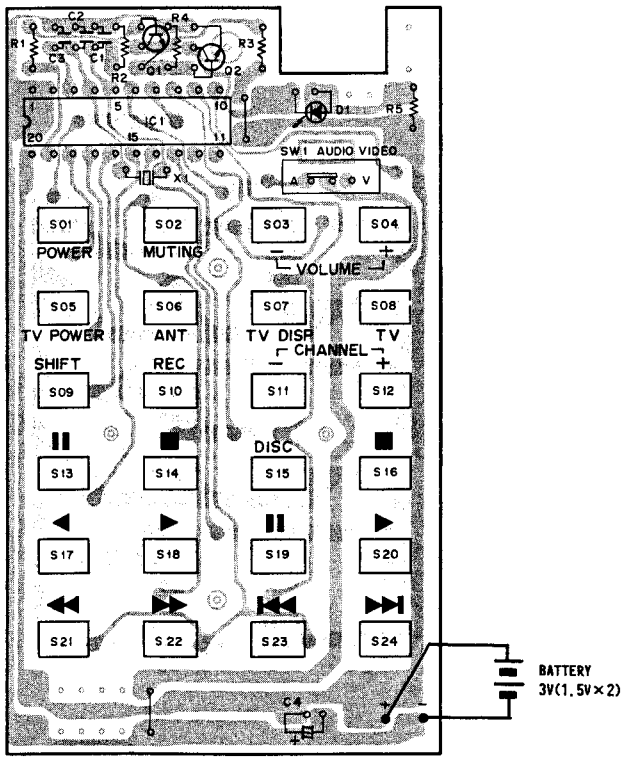
3. OTHERS:
   ➡; Signal route.
   ⊘; Adjusting point.
   The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
   ※ marked capacitors and resistors have parts numbers.

   This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

4. SWITCHES: (The underlined indicates the switch position)

SW01 : AUDIO/VIDEO A — V
S01 : POWER
S02 : MUTING
S03 : VOLUME −
S04 : VOLUME +
S05 : TV POWER
S06 : ANT
S07 : TV DISP
S08 : TV
S09 : SHIFT
S10 : REC
S11 : CHANNEL −
S12 : CHANNEL +
S13 : ⏸ (PAUSE) ┐
S14 : ■ (STOP) │
S17 : ◀ (FWD) │
S18 : ▶ (REV) TAPE / VCR
S21 : ◀◀ (TRACK SEARCH) │
S22 : ▶▶ (TRACK SEARCH) ┘
S15 : DISC ┐
S16 : ■ (STOP) │
S19 : ⏸ (PAUSE) │
S20 : ▶ (PLAY) CD / LVP
S23 : ⏮ (TRACK SEARCH) │
S24 : ⏭ (TRACK SEARCH) ┘

P.C.BOARD PATTERN



13. FOR RX-1180/SD, SD/G AND RX-1190/KUC

NOTES:
- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

Contrast of Miscellaneous Parts

The RX-1180/SD, SD/G and RX-1190/KUC types are the same as the RX-1180/KU type with the exception of the following sections.

Mark	Symbol & Description	Part No.				Remarks
		RX-1180/KU type	RX-1180/SD type	RX-1180/ SD/G type	RX-1190/KUC type	
	Complex assembly A	AWM1054	AWM1060	AWM1060	AWM1054	
	Main assembly	AWZ1373	AWZ1407	AWZ1407	AWZ1408	
	MIC assembly	. . . .	AWF1004	AWF1004	. . . .	
	Amplifier sash	AAK1224	AAK1295	AAK1295	AAK1224	
	Knob (MIXING LEVEL)	. . . .	AAB1017	AAB1017	. . . .	
	Mic panel	. . . .	AAK1274	AAK1274	. . . .	
⚠	AC power cord	ADG-077	ADG1016	ADG1016	ADG-077	
⚠	AC strain relief	AEP-113	AEC-882	AEC-882	AEP-113	
⚠★★	Fuse (6.3A, FU1)	AEK-309	. . . .	. . . .	AEK-309	
⚠★★	Fuse (3.15A, FU1,4)	. . . .	AEK-124	AEK-124	. . . .	
	Packing case	AHD1274	AHD1278	AHD1278	AHD1276	For packing
	GND terminal	. . . .	Non supply	Non supply	Non supply	
★★	Line voltage selector (S1)	. . . .	AKX-507	AKX-507	. . . .	
★★	Line voltage selector (S2)	. . . .	AKX1004	AKX1004	. . . .	
	Front panel assembly	AMB1232	AMB1233	AMB1233	ABM1234	
⚠ ★	Power transformer (T1) (120V)	ATS1072	. . . .	. . . .	ATS1076	
	(110V/120-127V/220V/240V)	. . . .	ATS1093	ATS1093	. . . .	
	Remote control unit	AXD1022	AXD1021	AXD1021	AXD1022	

Complex Assembly A (AWM1060)

The Complex Assembly A (AWM1060) is the same as the (AWM1054) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWM1054	AWM1060	
	C253, C254	CKDYB152K50	CKDYB102K50	
	C255, C256	· · · ·	CKDYB471K50	
★	D218	· · · ·	1SS131	
★★	Q210, Q211	· · · ·	2SK246	
	R254, R265	· · · ·	RD1/8PM224J	
	R340, R341	· · · ·	RD1/8PM221J	
	R349, R350	RD1/8PM101J	· · · ·	
★★	S201 Slide switch (DE-EMPHASIS/CHANNEL STEP)	· · · ·	ASH1009	

Main Assembly

The Main Assembly AWZ1407(RX-1180/SD and RX-1180/SD/G) and AWZ1408(RX-1190/KUC) are the same as the AWZ1373(RX-1180/KU) with the exception of following sections.

Mark	Symbol & Description	Part No.			Remarks
		AWZ1373	AWZ1407	AWZ1408	
	R816 (2.2MΩ, 1/2W)	ACN-208	· · · ·	ACN-208	
★	T801	ATT1011	ATT1041	ATT1011	
★	D705, D706, D709, D710	RD5.6ESB	RD5.6ESB	HZS4BLL	
★★	Q707, Q708	2SC2705	2SC2705	2SC2705P	
★★	Q711, Q712	2SC2238	2SC2238	2SC2238B	
★★	Q713, Q714	2SA968	2SA968	2SA968B	
	R739, R740 (0.33Ω/5W×2)	ACN-139	ACN-139	· · · ·	
	R739, R740 (0.27Ω/5W×2)	· · · ·	· · · ·	ACN1018	
★★	RY701 Relay	ASR-109	ASR-109	ASR-112	

MIC Assembly (AWF1004)

The MIC Assembly is used the RX-1180/SD and SD/G types only.

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC950, IC951	M5218P

CAPACITORS

Mark	Symbol & Description	Part No.
	C950, C951	CEAS470M16
	C952, C953, C958	CEAS010M50
	C954, C955, C960	CEAS100M25
	C956	CKCYB392K50
	C957	CKCYX683M25
	C959	CCCSL151J50
	C961	CKCYF103Z50

RESISTORS

Mark	Symbol & Description	Part No.
★	VR950 Variable (30k) (MIXING LEVEL)	ACS1006
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	Mic jack (MIC)	AKN1009

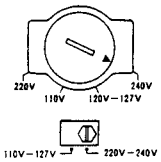
TWO VOLTAGE SELECTOR SWITCHES

Only multi-voltage models are provided with these switches. U.S. and Canadian models are not provided with these switches.
Mains voltages in Saudi Arabia are 127 V and 220 V only. Never use this model with 110 V setting in Saudi Arabia.

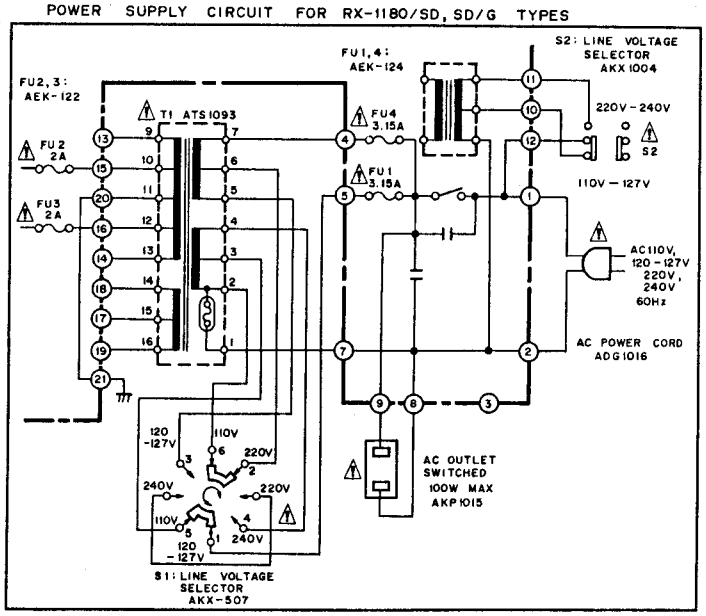
The line voltage selector switches are on the rear panel. Before your model is shipped from the factory, these switches are set to the power requirements of the destination. Check they are set properly before plugging the power cord into the household wall socket. If the voltage is not properly set or if you move to an area where the voltage requirements differ, adjust the selector switches as follows.

1. Use a medium-size screwdriver.
2. First, insert a screwdriver into the groove of the voltage selector at the top, and adjust so that the tip of the groove points to the voltage value of your area.
3. Next, insert a screwdriver into the groove of the voltage selector at the bottom and adjust until the voltage is the same as at the top.

Both switches must be in the same switch setting.



POWER SUPPLY CIRCUIT FOR RX-1180/SD, SD/G TYPES



CHANNEL STEP/FM DE-EMPHASIS SWITCH

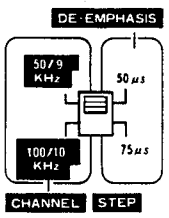
Only multi-voltage models are provided with these switches. U.S. and Canadian models are not provided with these switches.

The unit has been factory preset to the channel allocation and de-emphasis value for the area in which it is to be sold. If these value are set incorrectly, the frequency display may stop at the wrong frequency, or sound may be distorted, resulting in an inability to reproduce reception signals at their proper sound quality. For this reason, be sure to confirm that the values are set correctly before first using the unit.

[100 kHz/10 kHz/75 μs] position:
Set to this position for areas with FM reception step of 100 kHz, AM 10 kHz, and de-emphasis 75 μs.

[50 KHz/9 kHz/50 μs] position:
Set to this position, for areas with FM reception step of 50 kHz, AM 9 kHz, and de-emphasis of 50 μs.

When unsure about the channel allocation and de-emphasis values for your area, consult your dealer for correct information.



INSTALLATION OF MIC ASSEMBLY (AWF1004)